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ABSTRACT

Futures Information Interchange Newsletters present practical teaching methods and learning activities for introducing future studies into the classroom. Although the newsletter is directed toward primary and secondary school teachers, it is intended to be of value to educators at the preschool and university levels also. Lead articles present a rationale for teaching about the future, a summary of our global situation, and a humane orientation toward the problems of man's relationship to technology. Additional articles contain future-oriented curriculum suggestions, a series of energy education exercises, a parable about ideals, a transporation planning game, and a multidimensional context model for alternative futures. Activities are presented which involve students in planning for the future through futuristics games, discussion, letter writing campaigns, and social and political action. A practical outline for future-oriented course development for teachers to follow is also included. (Author/DB)

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The Futures Information Interchange Newsletter is a collection of practical teaching methods and learning activities for introducing future studies into the classroom. Although the newsletter is directed toward primary and secondary school teachers, it is intended to be of value to educators at the pre-school and university levels also. Contributions to the Newsletter: the newsletter staff welcomes any specific materials related to your future-oriented work in the classroom that you would like to interchange.

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Consulting

The Future Studies Program has qualified graduate students who are available to schools, non-profit organizations and governments. They will bring educational strategies, audio-visual materials, and curricular materials upon request. Terms of employment are negotiable. For further information, contact Robert Kahn, Future Studies Program.

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Graduate Admissions

The Future Studies Program is searching for persons interested in enrolling in the program as graduate students for 1977 admission. Applicants should write the program for additional information. Affirmative Action applicants are especially encouraged to apply.

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FUTURES INFORMATION INTERCHANGE

Vol. III No. 2 December, 1976

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A RATIONALE FOR TEACHING THE FUTURE

Kathe Chatwood

"That's the reason they're called lessons,"
the Gryphon remarked; " because they lessen
from day to day."

-- Lewis Carroll

A traditional complaint of students in every age and era is that of worthless schoolwork, or irrelevant curriculum. Unfortunately, the majority of teachers would probably have to admit that much of what they currently teach will be forgotten or relegated to the realm of useless knowledge when considered in the practical aspect of application to students' everyday lives. Education today faces the momentous responsibility of preparing students for entrance into a society which is estimated to have undergone more political, technological, and economic changes in the last thirty years than have occurred in the preceeding two hundred.

Schools concerned with applicable-to-life learning need to shift from content to process orientation when designing curriculum which will prepare students for life in the 21st Century. The next one hundred years promises to be an age where the rate of change (i.e., its rapid acceleration) will affect each individual's life in extensive ways. Such innovations as solar and nuclear energy, automation, computerization and space travel seem to mark only the beginning of the post-industrial society.

Anticipated change is less threatening to people than unexpected change. Education with a futures orientation stresses the teaching of skills and topic matter that will be <u>of use</u> to students in meeting the challenges of predictably different tomorrows.

Teaching with a futures perspective does not supplant the traditional heritage of cognitive skill building which now characterizes school curricula, but rather enchances what schools teach by providing methods, materials, and awareness experiences relevant to the students' future lives. Preparing students for the future involves teaching them to be comfortable with the processes of anticipating and adapting to change, and to be aware of their individual capacities to make decisions which influence the direction of change in their personal lives. Learning involving analysis of and participation in the community is therefore a salient feature of futures education.

Future studies is different from other forms of educational theory in two respects: first, its broad view of the society makes it pertinent to all subject areas. Secondly, its intent is to increase the direct participation of education in influencing the guiding and shaping of society. Futures studies is thus not as much of a discipline as it is a process of perceiving future potential, problems, and alternatives as options for societal choice. Its techniques and curriculum foster a long-range and open-ended attitude in students, giving them personal practice in decision-making which they can apply to their own lives and the community of which they are a part.

Noted futures researcher and analyst, Willis W. Harman, feels that analysis of the current social atmosphere is "... vital to the consideration of education's future role. Not only does its fuller understanding give some clue as to the kind of future we may have to design education for, it also faces us squarely with the question of the kind of future education is to help bring about."

It is helpful for educators to be cognizant of the long-term trends which may occur in our culture. Some of these tendencies are listed in Mr. Harman's paper commissioned by the ERIC Clearinghouse on Educational Management:

SOCIAL LONG-TERM TRENDS

World-wide industrialization and modernization
Accumulation of vast amounts of scientific and technological knowledge
Increasing lag of technological solutions behind technology-created problems
Increasing affluence and increasing self-consciousness of the underclasses
Institutionalization of change in formal societal structures
Emergence of a knowledge society and a knowledge elite
Increasing interdependence of social and political institutions
Increase of growth-motivated persons
Unemployment of the unskilled
Increasing stress-producing forces on the individual

EDUCATIONAL LONG-TERM TRENDS

More people and money involved in education
New consciousness of education in accomplishing social goals and alleviating perceived social problems (i.e., poverty, racism, sexism)
Increasing involvement of education with other social institutions
Life-long learning and extension of educational period
Learning society recognizing life-experiences as educational episodes
Increasing departure from traditional methods of instruction
Competition-ethic reduced by individualized programs
Extension of power and control in education to teachers, students
Increasing blurring of distinctions between vocational and academic education
Non-authoritarian attitudes, shared learning and mutual respect between facilitators and learners

In the light of the projections made by Mr. Harman, it is obvious that if only half of the trends mentioned materialize, the world of both the future learners and their teachers will be quite different from today. Can teachers abbrogate their responsibilities for teaching students how to cope with such trends, especially if such instruction introduces awarenesses and skills to students which may help them anticipate and perhaps circumvent some of the more negative extrapolations projected for the society?

Such adaptive skills and topic matter are stressed in a futures-oriented curriculum and can easily be plugged into existing curriculum. Typical methods include normative forecasting, trending, cross-impact analysis, Delphi polling, and scenario creation, to name a few. These skills not only involve students directly in decision-making and problem-solving, but can easily be combined with relevant traditional skills such as data gathering and analytical reasoning.

Subject matter dealing with population growth, space travel and colonization, energy alternatives, genetic engineering, food production, and cloning are pertinent and interesting to students, offering endless possibilities in several disciplines for the creative teacher. For example, science fiction stories can be used to enhance literature programs. Such futuristic readings provide high interest motivation for students in working with traditional vocabulary, literary analysis and descriptive-narrative writing tasks. In addition, such materials assist students in exploring our current society's values and their possible future extension. Composition courses are much better received by students if grammar and writing principles are combined with such creative assignments as scenario writing. (Scenarios are stories which select details of current society and extend them into a future time frame, thus giving students skill practice in assessing the consequences of courses of action and decisions made in the present; Paul Ehrlich's "Eco-Catastrophe" is a well-known example.)

The entire realm of social studies should be broadened to include concepts in economics, political science, sociology, and psychology, besides that of history. In respect to the teaching of history, why not start with the future and work backwards in time, assessing how society followed certain trends to get where it is today? This process emphasizes directly that present and future consequences are the result of past decisions.

The final important area that future studies stresses in preparing students for the future is the aspect of human growth involving valuing, feeling, and aesthetic appreciation. The Sputnik-inspired emphasis on science and mathematics in the 1950's is now swinging back to an equal emphasis on the humanities and the sensitivities to nature, self, and others. Emotional awareness and a sense of self-identity are as vitally important to students as the strictly cognitive materials formerly accentuated in schools. One may convincingly argue that they are more necessary for students' futures, for of what use are schools if they produce people comfortable and knowledgeable about concepts, yet unsure of themselves, unable to apply the skills and information they have acquired in their own lives and in their community by making adequate decisions and acting upon them? Practice at valuing and decision-making are imperative in the classroom. (Teaching Human Beings, by Jeffrey Schrank, is a curriculum-philosophy source that is replete with such sensitivity exercises. It would be an excellent addition to any teacher's or school's professional library.)

Futurizing classes is quite a stimulating undertaking for teachers of any grade level. It involves re-educating oneself, opening to an entirely new and sometimes exhilarating range of potentials within oneself as well as of the society at large. It will cause teachers as well as students to reassess their own values in the light of future potential developments by bringing to the surface issues and attitudes which are often overlooked in the rush to adequately teach the necessary basics. If a teacher is not open to the possibilities and hazards inherent in the future, can s/he really be effective in preparing students for a world where they will, after all, be living the majority of their adult lives?

Future studies education means an expansion in the school's traditional time frame. It encourages students and teachers to imagine alternatives, to think divergently and not be locked in by one way of relating to the world. It provides practice in generating creative solutions for problems, and develops clearer senses of one's own values and the ability to make decisions based on them.

The next issue of FII will contain a summary and description of how a group of teachers in District 66 of Omaha, Nebraska undertook the designing and integrating of future studies principles and materials into the school-wide curriculum.

MAKING A DIFFERENCE

Craig Pulliam

Should futurists be active advocates of particular solutions or should they be satisfied as the generators of possible futures? A recent future studies class consensus revealed that the students felt that futurists need to bridge the gap between idea and action. If we fail to bridge this gap, futurism will merely become an academic exercise. Too often, the futurist is met with blank stares from people who view him/her as no more than a second-rate mystic. Seen this way, what kind of impact can the futurist have?

It is a challenge to the futurist that Americans do not seem interested or adept at assessing the long range benefits and consequences of our aspirations. We are more interested in immediate gratification and relatively short term goals. A person who generates possible futures and waits passively for the public to embrace these forecasts, is doomed to failure or marginal success, at best. Historically, we Americans have been content to rely upon elected officials and our educated elite to make our decisions for us.

I wish to define "effective" to mean "to have impact." In my opinion, the effective futurist would be an active force in "secularizing" future concepts. The best way to secularize the future is to work with policy makers and institutions. Should the futurist do so, s/he will focus public interests upon alternatives to and possible outcomes of present trends. Obviously, this is no mean task. It is not enough, in my opinion, to rely only on high motives, innovative ideas, and exuberance.

Too often, well-meaning innovators with good intentions have been dismissed by their critics as overzealous, wide-eyed visionaries, or alarmists. Frequently, these critics simply don't understand the concepts presented or are skeptical of that which does not appear to have immediate utility, reinforce our traditional goals, or follow accepted formats.

And so, the futurist choosing the active approach of secularizing the future must plot a very precise course if s/he is to maximize the probability that a concept is to be accepted as worthy of consideration. Roadblocks to change are many and resistance to relearning fierce . . . these are subjects which have been widely discussed. But, unfortunately, mere discussion of these hurdles is not going to make the road to change any easier to traverse. And change should be our goal as futurists . . . change in attitudes and behaviors.

Many policy makers exhibit a stubborn predisposition to traditional viewpoints and policies as the only appropriate answers to any new problems which face us. This clinging to tradition typifies a feeling that the future will simply be an extension of our past, with few surprises. For the futurist, this mentality represents quite a challenge. Since any new answers advanced by the futurist will certainly fail unless there is first a clear understanding of the need for a change in attitude and behaviors.

This, then, is one of the chief tasks of the futurist: to communicate a clear understanding of the need for this type of change. The mere generation of possible futures, alone, will not accomplish this feat, it can only be a first step.

Most of the readers of the FII are educators, and nowhere is the need for change and an understanding of the future more pronounced than in our educational system. The role an active educator/futurist may play in the redirection and rethinking of education cannot be understated. Such a person can have a profound impact upon the system. But most educator/futurists are presently engaged in rather limited use of futurism in the classroom, limited usually to their classroom. These people can certainly achieve some measure of success within this limitation, and students have occassionally had experiences which transcend the walls of the classroom. But this is the exception to the rule. Students leave your classroom and journey to another and another in the course of a day. Here, in the confines of four new walls, they're faced with a new teacher who may well be a little less enlightening than the educator/futurist who had his/her chance earlier in the day. And so, the student who so eagerly sought to learn and explore in those early morning hours has lost that feeling by the end of the day, and is now on the way home to spend an evening with TV.

In my view, using futurism in your classroom, alone, is not enough. It is not enough for the educator/futurist who sees education as an experience which transcends the walls of that classroom or that building. I propose that educator/futurist seek out their colleagues and present them with arguments for the inclusion of the future in their disciplines. There is an increasing number of books dealing with how the future might be taught in different disciplines, many of which can prove to be quite useful resources (Draper Kauffman's book Teaching the Future is a good starting point). Students can be encouraged, for example, to take some of the futuristics games home for use with their families, and then share the results with the class.

Finally, I propose, that teachers prepare to present a program of curriculum ideas to school administrators in hopes of enlisting support for more courses, additional funding for model projects, and increased flexibility. By "program" I mean a proposal which advocates the study of the future in various disciplines, using different learning environments and methodologies. The presentation of such a program can be a frustrating experience, especially when we are seen as a threat to age-old tradition. It is frustrating, too, to engage in efforts at effecting change when the average educator has little knowledge of methods which can maximize the probability of success. Our training has been woefully inadequate in this area.

Perhaps a few suggestions would help at this point. For those who accept the challenge to broaden the acceptance of the study of the future as an integral part of the educational enterprise, and who may be preparing curricular programs in the study of the future, I suggest the following:

A. INVITE INVOLVEMENT. In the planning stages, involve every group which would eventually be affected by the program (students, parents, teachers, administrators, community resource people, etc.). This involvement can mean simple brainstorming or more serious tactical sessions. At any rate, a person enfranchised in the planning will most likely contribute to the development of the program and be supportive of the finished product.

B. BE REALISTIC. Any program which is an attempt at change should be relatively modest, rather than an ill-disguised attempt at a major educational revolution. Also, it's good to remember that there are many ideas in this world, and yours are as vulnerable and expendable as anyone's.

C. BE SPECIFIC. Specificity is extremely important, and the more each idea can be stated in operational terms the better will be the chances of success. Many ideas have been discarded because the proponents had not offered specific suggestions for implementation. People just are not quick to support a program which puts them in the position of finishing it for you; your proposal should be complete.

D. ANTICIPATE OPPOSITION. Depending upon the type of forum used to discuss your program, it might be wise to rehearse. Think through each phase of the proposal, anticipate objections, and be ready with direct, honest answers or, if necessary, alternatives.

E. BE CLEAR. Depending upon the group you are addressing, academic jargon should usually be avoided. If you want people to treat your program with interest, don't speak in a foreign language.

F. SHOW RELATIONSHIPS. Try to relate your program as a part of a larger picture, show how it fits in, that it is not apart, that it is integral. Show how some existing resources can be used in innovative ways. Also, the explication of similar, successful programs elsewhere can be a real boost. Be sure to show how your program is slightly better, though.

G. GIVE IT A NAME. It never hurts to have a catchy, descriptive name for your program.

H. BE GRAPHIC. Use of schematics, diagrams, and models will increase the chances of acceptance, as simple visual aids will help people to better understand your program.

I. PROVIDE FOR EVALUATION. Provide for an on-going evaluation of the program, and be open to a "pilot program" approach.

The preceding list of tips can provide educator/futurists with a useful, common-sense guide for successful change, and we need to follow some type of a plan as change is not something that can be accomplished in an off-hand manner. I have stated that the effective futurist must bridge the gap between idea and action, and nowhere is this need more pronounced than in the field of education. I leave you with this challenge: either accept your educational institutions as they are or accept responsibility for changing them.

THINKING ABOUT THE FUTURE: A LITTLE SHOP TALK

Neal Norris

Several subject areas are usually ignored or completely overlooked by middle and high school educators who are beginning to futurize education. I have heard many teachers say that future studies sounds like a good idea and probably should be part of the school curriculum, and then in the next breath, ask who should teach" the futures course" next fall!

This rather common misconception concerning the role of future studies within the school curriculum has some serious consequences. Leaving futures education with only a new course is typical of the "feed-the-fish" approach to teaching which has dominated education for too long. Many well-intentioned educators continue to help perpetuate this view of teaching as cutting THE BODY OF KNOWLEDGE into little, digestible pieces which are fed to our students, much as one would break off chunks of bread to feed fish in the city park. Unfortunately, we all too often forget to put the pieces back together again for the students.

As professional educators, we must teach students to appreciate the interdependent nature of learning. Furthermore, we should begin to teach a whole method of thought--creative thinking. This future-focused, open-ended perspective will give students a means to cope effectively with the many complex problems that afflict our society by anticipating a range of alternative solutions to those problems.

Offering "a futures course" is one way--but only one of several ways--to reorient curricula toward the future. Another, perhaps more effective, method would be for <u>every teacher to futurize classroom courses</u>, thereby offering an integrative, synthesized approach to the various aspects of knowledge.

It seems all too easy for the shop teacher or shorthand instructor to transfer this responsibility to the social studies or english staff. With a little effort, however, math, science, language arts, shorthand, typing, physical education, home economics, mechanical drawing, and even wood shop, can be effectively taught from a futures perspective.

A woodworking instructor, for example, could spend some class time discussing various building materials and their possible uses in the future of home construction. This discussion could easily lead to an active program of home design using plastics, prefabricated wood products, and recycled materials (see "The House That Junk Built" in THE FUTURIST magazine, June 1974).

This project could be extended in a team situation by incorporating discussions led by science, social studies, and mechanical drawing faculty members. When designing and building these prototypes of possible future housing models, students and teacher would naturally explore many interrelated issues. For example, will these dwellings be single-family homes or thousand-unit apartment complexes? Will they be built above or below the ground? How will the use of reinforced styrofoam, fiberoptics, and energy alternatives affect the kind and quality of houses built? This one simple exercise, then, may easily--and quickly--lead to consideration of alternative future lifestyles, transportation systems, technological innovations,

geo-industrial design problems, alternative energy sources, as well as to questions surrounding fundamental human values.

A shorthand or typing teacher could develop some hypothetical correspondence between two professors, scientists, or concerned citizens discussing the implications of a nuclear power plant "melt-down," a new psychological condition resulting from living underground, or the discovery of yet another "wonder drug" affecting our collective future. Students could first record the dictated letters and type them correctly. Then they could be asked to answer one of the more provocative letters or write advocacy letters to their senator or congressman. The methods and activities which may be used are almost limitless.

Restructuring the curricula would, of course, require teachers to rethink old assumptions and open up their course content to include the future dimension. When writing new objectives for these future-oriented courses, another look at cognitive objectives, for example, would mean that the application, synthesis, and evaluation levels should be more fully included than they have in the past. A new, effective balance between these and the more heavily used knowledge, comprehension, and analysis levels should be sought. Affective and psychomotor skills could also be successfully incorporated into activity-oriented course designs.

A practical outline for course development and revision that I have found useful follows this pattern:

I. Introduction

II. Basic Goals and Objectives

III. A Structure Sketch

IV. Some Possible Curriculum Units

V. A Materials Resource List

VI. Possible Class Activities

- A. Group Activities
  - 1) Written
  - 2) Oral-Visual
- B. Individual Activities
  - 1) Written
  - 2) Oral-Visual

VII. Some General Questions and Thought-Stimulators

VIII. Handout Ideas

IX. A Printed Media List

- A. Readings List
- B. The Linguistic Dimension (Vocabulary)
- C. Organizations and Institutions List
- D. People Print-Out (people in your field who are creative and have future-oriented ideas)

X. A Visual Media List

A. T.V. and Movies

B. Films

C. Transparencies

D. Filmstrips

E. Art-Paintings

F. Theater and Dance

XI. Oral Media List

A. Music

B. Tape Recordings

XII. Bibliography

After you have written down your ideas in each of these areas, it is easy to go back through the outline and quickly extract the needed rationale, objectives, materials, activities, and media resources for any curriculum unit you wish to create. Once you have developed the outline you may be surprised how quickly you can then generate a host of units from the outlined core materials.

Experienced educators may find this brief outline a refreshing way to revitalize the content of old courses, while beginning teachers may use it to organize scattered thoughts and jumbled methods. It is also a very impressive document to produce during teacher evaluations and may be the difference that secures your job for another year.

These ideas and outline are suggestive rather than definitive and should be used in that way. Every educator can reorient his class and curriculum if he wishes. This responsibility does not rest in one department or two. Every educator and school system must take the responsibility to see that students are taught how to cope effectively with their personal and collective futures.

THE MAGIC ENERGY WAND: A SERIES OF ENERGY EDUCATION EXERCISES

Cathy Horvitz*

Most people think of energy as fuel for human usage, and curriculum materials for energy education tend to reflect this view. We are used to talking about different forms of energy: radiant, chemical, electrical, etc.; energy and its role in the past; revolutions spurred by the discovery of new ways to harness energy; steps associated with energy usage: harvesting, refining, storing, transporting; energy for the future; resource depletion; the implications of various types of energy usage; the need to conserve energy; and the flow of food energy through natural systems.

Activities such as inventorying different ways humans use energy may lead into an evaluation of their "real" importance, effects, trade-offs, and long-range implications. These all, however, comprise relatively arbitrary cultural processes.

*FII Note: Cathy Horvitz is curriculum specialist working with the Energy Interpretation Project of the National Parks and Recreation Association. She lives in Hadley, Massachusetts.

Curricula foci such as those mentioned above are important in that they foster an understanding of how things work now, but they do not deal with how things may change over time, or what meanings they have to individuals and in a larger-than-human context.

Human cultural behavior is subject to several "universal" laws of nature, which fall conveniently into the scope of energy education. These basic understandings (borrowed from the study of physics and biology) subsume the more common view of energy as "the ability to do work." Energy is not only "fuel," but it is a major limiting factor in all environmental relationships. Further, it is the context which permits these relationships to take form. In more specific terms, energy is a prerequisite for change, and thus a crucial element in any conception of the future.

The exercise which follows is an attempt to broaden our definition of energy, looking at it as the common bond which connects all life interactions: past, present and future. It is meant as an introduction, a sensitizing mechanism which could lead into studies of a more specific nature -- an examination of energy as a defining factor in adaptation and evolution, for example.

Setting

This exercise has been used in abbreviated form with adults of all ages and backgrounds in a series of energy interpretation workshops conducted by the Park Project on Energy Interpretation of the National Recreation and Park Association. The exercise, as presented here, grows out of Steve Van Matre's work in environmental acclimatization and is most successful with fourth or fifth grade students, though with proper introduction it can be used at any level.

The game is best conducted with all group members sitting together in a circle. Ten or fifteen is optimal size, though more or less may be easily accommodated. Larger groups may be broken down and the game played concurrently after a common introduction. It may be played once or over a series of class periods in conjunction with social studies, science, ecology or English curricula, depending largely on the type of follow-up activities desired.

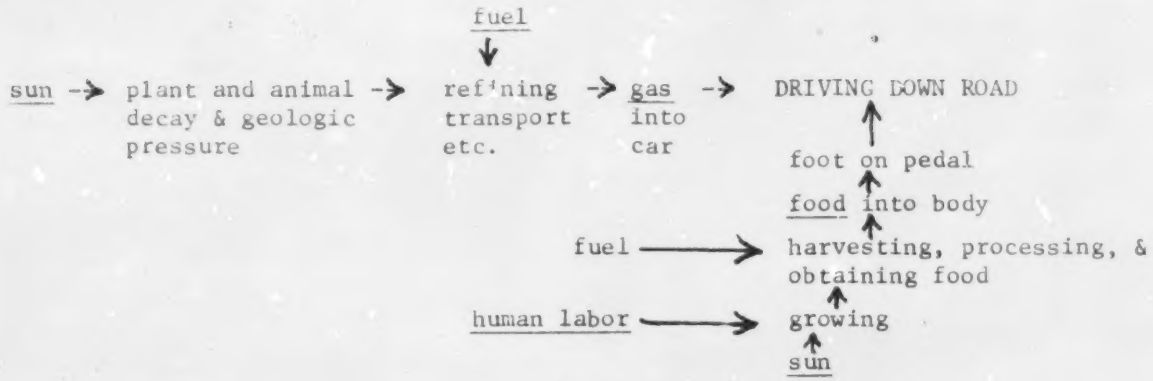
The only material this exercise requires is a magic energy wand. The wand is best selected from materials the players are familiar with and which are at hand in your immediate location. Any object will work. Be sure in the course of playing this game to pick both natural and human-made energy wands (from twigs, ants, leaves, and rocks to pencils, glasses, shoes and chalk) as initially they may facilitate different thought processes -- though eventually these should merge.

The exercise is aimed toward increasing general environmental awareness and thus lends itself equally well to any setting: rural, urban, indoor or outdoor. Through playing the game, basic underlying relationships which carry through all systems will become evident. Thus, a diversity of settings and wands should be encouraged.

Introducing the Game (A)

Take an object that everyone is familiar with, say: a car, Diagram the energy/change relationships involved in driving that car down a road. What is needed to

make the car go? What do we take for granted? Make these links visible. Trace them back step by step to their origin:



Obviously, there are many other relationships involved here as well. The main point is that for any change, and here we are focusing on the observeable changes of a car going from a static to a moving state, an outside energy source is necessary. In this case human and non-human sources are both involved.

The Energy Wand (B)

After running through this exercise, pick a magic energy object -- something that is small enough to hold and pass around. Introduce it as such, saying that because it can magically transform, it is important to get acquainted in the present.

First pass it around the circle letting everybody examine it silently. Encourage them to look at it from all angles. Use all resources available: hands, cheeks... Is there anything that would help you find it if it were in a pile of similar objects: an unusual bump, a smell, a taste, a sound? After it gets around the circle, put the wand in the center and have everybody describe what they see: from close up, far away, above, below, etc. Rotate and notice changes.

Where did you find the wand? Look at it as part of a habitat. Who or what might it relate to in the course of a day? Does it initiate interrelations on its own, or if not, what spurs them on? What about this object invites interaction? How do others see it? How do they feel about it? How would the wand look if it grew to ten times its present size? How would it act differently? What if it shrunk? Changed colors like a chameleon? Glowed in the dark? When you feel the discussion is dying down, begin the game.

The Playing Cycle (C)

Pick up the magic energy wand, holding it in both hands. Stretch your arms out fully in front of you and say, "I am a magic energy stick (or whatever)." Transfer the stick to your left hand, holding it outstretched to the side, and say, "In the past I was a tree." Finally, transfer the stick to your right hand and say, "In the future I will be a song." The progression in this case moves from a

tree to a branch to a stick to paper to somebody composing a song and printing it on the paper to someone singing the song.

Pass the magic wand to the person on your left and go around the circle in this fashion, each player taking the wand and going through the present - past - future pattern. It's OK if there is repetition, but there is no limit to right answers. In fact, there are no wrong answers (let the players discover this for themselves). The game should be an exercise in imagination, a modification of the brainstorming approach. Pressures defeat the purpose. The first time through, there is likely to be a focus on concrete, directly observeable relationships, but over time this will change. This game can be surreptitiously "practiced" anytime, anywhere...

Key Concepts for Follow-up Discussion

*A given system cannot generate more energy than it has at any one moment, and will tend to lose energy. (First and Second Laws of Thermodynamics)

*Change is always associated with energy, and may be defined by the gain or loss of energy within any given system in relation to its surroundings.

*Everything is always changing. Matter cycles in the Universe, ever becoming something else.

*Some changes are fast and visible to the human eye. Others are slow and only emerge when we look at gross patterns over time.

*When energy flows are slow enough and our eyes cannot detect their changes, we may refer to them as storages, and we name them (table, book, twig, ant, etc.).

*Everything is connected to everything else, and energy is the common bond.

Follow-up Activities and Variations

1) When everybody has a good grasp of the concepts, repeat the game and see how the group can make the largest/longest past-to-future leaps. This can be measured in terms of time, or number of energy steps. Divide into teams or do it individually.

2) Imagine yourself in the past and in the future. By the rules of this game, what would you like to be, and what were you? Draw a picture, write a story or act it out.

3) See how many different kinds of energy conversions you can leap through chemical, radiant, mechanical, psychic, etc.

4) Take a leap and see how many different energy patterns you can specify that will get you to the same end point. What are the differences in energy (as fuel) use? What are the different social implications in each scenario? Starting with the sun and leaping to preserves on a slice of toast, an obvious variation would be growing the berries yourself or a commercial process, for example.

5) Think of two objects that you like. What do they have in common (now)? How far back do you have to trace their evolution until you reach a common source? What is it? Is there more than one common point in the past? Trace them to a point in the future where they will be united as one thing...

6) Look at a short leap of two or three steps. We have stated that everything is connected in one way or another. You can show direct connections by tracing out effects. What are the first order effects of the energy leap? How does the change you have designated directly affect the environment? What are second and third order effects? These may be documented as wheels, cross-impact matrices, graphs, flow charts, pictures, etc. (see previous FII issues for more specifics).

7) Try setting time frames for energy leaps: Five years ago I was..., twenty-five..., five billion..., and the same in the future.

8) Have players bring in their own energy wand objects and/or have them teach the game to younger players.

A PARABLE ABOUT IDEALS

Jake Plante

This activity serves to help us examine how our ideals and general orientation toward the future influence who we are and what we do. It can be used with people of all ages. However, with younger people, word substitutes or explanations of certain words in the story may be necessary.

This is a tale about how six animals of the world went about to discover the Land of Harmony and Grace. Though each of the animals chose a different course to follow, all were commonly seeking a Good Land where life was blessed with great fairness and love.

In preparing for their journeys to the Land of Harmony and Grace, the Rabbit, the Elk, the Owl, the Seafish, the Cat and the Sparrow took great care, for all knew that their travels would not be safe or sure. Of the others they had spoken with, many had felt that a trip of this nature was too dangerous to even try. "And besides," the animals heard others say, "for all the many attempts to find this Good Land, its exact whereabouts has remained a mystery to this day." Some had even doubted its very existence!

So it was only after a long and difficult process of soul-searching that each animal decided that the possibility of finding the Land of Harmony and Grace was worth even more than their own lives. And when the day finally did arrive for each animal to go, it was with tears of worry, as well as pride, that their friends waved them good-bye and they set forth in their search for Good Fortune.

The Rabbit traveled a meadow path and made much progress until his thoughts turned to nourishing his large and stately appetite. As if a carrot on a stick had been strung before his eyes, the Rabbit hopped to and fro to feed upon nature's

garden. Within a short time, his appetite was well satisfied -- so well in fact that he was too bloated and drowsy to go any further.

The Elk went by way of deep forest trail. As if passing through an underground tunnel, the Elk fixed her eyes upon a small clearing in the distance. Unfortunately, it was because of her straight and forward glance that she failed to see a large pothole in the trail and fell, twisting her ankle. It soon grew so sore that she did not know if it would be possible to continue.

Meanwhile, the Owl, whose wisdom is legendary, proceeded by flight from tree limb to tree limb. The route he followed was based upon his recollections of a trip he had made through these woods once before. As if looking through a rear view mirror, the Owl let prior experience be his guide. It was, therefore, very disturbing when, to his surprise, he was unable to locate a tall oak tree, an important landmark in his current endeavor. Whether gone from old age or cutting, the Owl did not know. But it was now going to be difficult for him to regain his sense of direction.

The Seafish embarked by way of the ocean waters. Although he preferred to spend his time swimming well beneath the water's surface, he would at various times, rise to the surface and jump out of the water into the open sky. As if a periscope was being raised up by a submerged vessel, the Seafish would use these jumps to site his progress. However, because his ascents to the surface were so few and so short-lived, he eventually lost track of the way and wandered far off course.

In contrast to the others, the Cat traveled only at night. Moving at road's edge, she let her feline intuition be her guide. Relying on this special knowledge of what lay ahead, the Cat was able to cover a great many miles. But as fate would have it, she sensed the possibility of danger up ahead and decided to turn back, leaving the status of her trip in question.

Of the six animals who sought to find the Land of Harmony and Grace, the Sparrow had the greatest success. She flew high above the ground where the sky was brilliant and clear. As if atop a mountain peak, she could see both far and wide. And with this open view she was able to fly a true course over land or sea. Like the others, her journey was difficult, but she did not give up and thankfully so, for an amazing thing happened.

While the Sparrow was airborne, a strong wind suddenly developed and broke upon her. Rather than struggle against it and risk her strength, she decided to let it carry her for awhile. It was then that the Sparrow came into view of a large island in the sea. As she flew nearer, she felt her heart quicken and she realized that this was it, the Land of Harmony and Grace. "There it is!" She exclaimed. "Oh what a magnificent sight to behold!" But before she could catch her breath and prepare to make a landing, the wind rose again and swept her into some high puffy clouds.

When she found her way clear, the Land was nowhere to be seen. So she flew and flew and flew to find it once more. Where had it gone she asked herself?

She searched and searched for this Good Land until she became weary and could search no more. And although she was sad that she could not stay, her heart glowed with the wonderful knowledge that she had seen it, the Land of Harmony and Grace.

And she felt good that she could go back and tell the other animals that it did exist, and it indeed, was more beautiful than anyone could imagine.

Follow-Up Questions

1. How would you define the various visions or orientations toward the future described in this story? (underlined words)

2. In terms of what the events of their trips symbolized, why were not some of the animals perhaps more successful?

3. Did the animals fail?

4. What is an ideal?

5. If ideals cannot be realized or "found" but only approximated or "seen," is it necessary for people to have ideals?

6. Of the ideals you may hold, what are the three most important to you?

7. What is the difference between an ideal and a goal?

THE BOSTON TO PROVINCETOWN PLANNING GAME

Duane Dale and Robert Kahn

The Boston to Provincetown Planning Game is an educational exercise, which can be employed with many different age groups, from elementary through adult, and over the course of several hours or even days. The game is a graphic introduction to planning strategies, normative design and futures awareness.

The game itself follows. We advise teachers to break their classes into groups, since teamwork is facilitated with smaller numbers of participants.

Introduction

Your group is a "high-powered" transportation team which has been contracted by the Commonwealth of Massachusetts to resolve a vexing transportation dilemma. The design developed by your staff will more than likely be implemented by the Commonwealth, since federal funding in the multi-million dollar range is already available.

The Problem

Every year, more and more people from the Boston Metropolitan area travel to Provincetown and the Northern tip of Cape Cod for a weekend trip or a summer vacation. On almost every weekend, from mid-May through September, the capacity of existing highways (the chief means of reaching Provincetown from Boston at present) is exceeded. Huge traffic jams are common at the bridges linking the base of Cape Cod with the mainland. Often a trip between Boston and Provincetown can take as long as four hours, or twice the travel time at an off-peak hour. Accompanying such congestion on the roadways is increased safety hazards, automotive pollution and other ill effects.

Massachusetts has decided that some action must be taken to meet current and projected travel needs between Boston and Provincetown through the year 1990. Your planning team has been contracted by the Commonwealth to develop a plan that can meet those needs.

The "design hour" (or maximum load any transportation plan must accommodate) for this project is 1000 persons (beyond current rates) departing Boston for Provincetown and Provincetown for Boston. Your transportation planning team is expected to develop a plan that will accommodate traffic loads of at least 1000 more persons traveling on an hourly basis in each direction.

What then is the best way to get these persons to their destinations? Your planning team may employ a mixture of transportation strategies or construct an entirely new transport system (using the latest currently feasible technology).

Step One: Determining Design Criteria

A) Begin by brainstorming the entire range of transportation modes an individual and/or groups could employ in getting from Boston to Provincetown (or vice versa).

B) Your planning team must rank order, from most to least important, the following list of transportation design characteristics. Such a ranking will indicate where your design team has decided to make the necessary "trade-offs" required in any planning strategy. The characteristics your team places at the end of the list will reflect lower planning priorities in camparison to those design characteristics listed at the beinning of the list. With such a ranking completed, your planning team will then be prepared to initiate the actual design of a transportation system to best meet your established priorities.

The listing of design characteristics follows alphabetically:

aesthetics
comfort
economics; i.e., cost of construction and operation, etc.
energy requirements; i.e., in construction and operation
environmental impacts
flexibility; i.e., ability to adjust system to new trends
safety
social effects; social interaction w/in system, effects on surrounding communities
speed
time required for construction

Since this listing is not definitive, planning teams may wish to add one or two other design characteristics, and include these in their ranking.

Step Two: Designing the Plan

A) Choose one or several of the transport modes from Step One (A) and design your plan. Be sure to honor the ranking of design characteristics you determined in Step One. Consult experience as your leading planning guide. If necessary "guesstimate" figures and costs. Do not feel cramped by a shortage of information; be creative. Also, be certain that your plan is coherent and that the system as a whole functions.

B) Draw up your plan. A visual presentation such as sketches, flow charts, maps or even a three dimensional model will help make your proposal more real to your planning team and its client, the people of the Commonwealth of Massachusetts.

Step Three: Presenting the Plan

Prepare to present your plan to the Commonwealth. You will want to appoint spokespersons from among your planning team who will:

A) Explain why your team determined which design characteristics would dominate its planning strategy.

B) Indicate how your plan meets the array of characteristics of Step One and how your team's plan is the "best" solution to the problem.

Step Four: Evaluating the Plans

After each planning team has made its presentation, return to your own planning team and consider the impact of each plan on the basis of the design criteria under Step One.

Environmental impact studies (as required by the USA Environmental Protection Act of 1970) insure that consideration of the impacts of both construction and regular operation are made before the plan is implemented. Such studies must be made before federally funded plans can be approved.

So that consideration can be made of the plans developed for Boston to Provincetown travel, construct a matrix like the one below. Under environmental impacts, make separate categories for air, water and land. Also rate the impacts according to all the other design characteristics listed in Step One. In making your judgments ask yourself questions like (under economics of Plan 1): will more jobs be created thereby assisting the economy of the region? Or (under aesthetics of Plan 2): will the transport system be an eyesore on the landscape? Each participant should be instructed to rate each plan in each category as follows:

++	+	0	-	--
very favorable impact	favorable impact	neutral or no impact	unfavorable impact	very unfavorable impact

(See chart on next page)

	Plan 1	Plan 2	Plan 3	Plan 4
aesthetics				
comfort				
economics				
energy				
environment				
land				
air				
water				
flexible				
social				
safety				
speed				
time				

After each participant in your group has rated the impact in each of the areas (cells) find the mean and consider your entire group's evaluation of a given plan. which one comes out best? Is it fair to consider all the design criteria equally (as we have done above)? Would your group rather make its final judgment on the worth of the other plans on the basis of your group's rank ordering back in Step One? On that basis, how does your plan compare with the other proposals?

Members of the Future Studies Program at UMass have conducted this game several times, in and out of classroom situations, with high school age on up through adult persons. The uniform reaction of those participating in the experience was that the game was edifying and entertaining.

Certainly the way in which the game has been presented here in the FII can (and probably should) be altered to accommodate particular groups.

We think that the transdisciplinary skills required of participants in the game, not the least of which is interpersonal skills, makes the game appropriate in a variety of different (academic) settings. The Boston to Provincetown Planning Game can be employed with great success in classes from social studies and English to science and mathematics. Teachers can emphasize and/or demphasize elements in the game to make it more compatible with their objectives.

The game in itself is only a starting point for an ongoing process of investigation in futures awareness, technology assessment, planning, values clarification which can spin-off from the game itself. What follows, then, is suggested follow-up activities which will help to deepen the learning experience of the Boston to Provincetown Planning Game.

Follow-Up Activities

Discussion Questions A

How does transportation planning in the "real world" actually proceed? How does planning in other areas such as housing, economics and energy work? What are the planners' design criteria? How are those criteria established? How explicit is the criteria made? How involved in developing these plans are the people most likely to be affected by the plans? How many alternatives are considered before a final decision is made? (A field trip to a hearing on a highway proposal or other public works project may go a long way toward providing insight into how "real world" planning works.) Useful comparisons can be made between the model presented in the Boston to Provincetown Planning Game and planning methodologies normally employed.

Discussion Questions B

How did each group determine whether their proposal would meet the required capacity of 1000 persons per hour in each direction? For example, if any group proposed highway construction, how did they decide how many lanes would carry 1000 people?

Discussion Questions C

It is always valuable to seriously and critically investigate all alternatives. This includes examining the alternatives of not developing a transportation scheme to meet increased demand, but rather to seek out ways to alter the travel demand that caused the problem in the first place. Such options as car-pooling, developing alternative vacation sites, taxing travellers should be considered. Exploring the "no-build" option opens up an entire area for class discussion such as the underlining assumptions of traditional growth policies, and the value of "getting at" such fundamental assumptions as a necessary part of an intelligent planning process.

FOOD FOR THOUGHT

Mark Cherniack

The foods we eat contribute to six of the ten leading causes of death in this country: coronary heart disease, cancer (bowel), stroke, diabetes, arteriosclerosis, and cirrhosis of the liver.

Everyone is in favor of nutrition education, but a look at the two traditional approaches and a glance at the health statistics point to the total failure of these methods.

The first has been the "eat a balanced diet" from the "basic four" food groups approach. Colorful pamphlets with cartoon characters are available from the food industry and the U.S. Department of Agriculture encouraging everyone to eat a wide variety of foods and never focusing in any particular dietary villain.

The second most common approach is to teach people the biochemisty of nutrition. Dr. Michael Jacobson of the Center for Science in the Public Interest says of this approach, "It's a mistake to try to turn everyone into amateur nutritionists. Is it really important that everyone know the function of riboflavin in the body? It's like trying to teach people to drive safely by explaining how a carburetor and ignition system work. If you want people to eat a better diet...you tell them what's wrong with their diets and how to correct them."

Dr. Jacobson suggests that we adopt specific nutritional goals and then support these goals through legislation and education. This approach gives us a chance as teachers to begin to work with the whole issue of food without worrying about our training in biochemistry. The following bibliography (annotated sometimes) will give you a start:

Food: Where Nutrition, Politics and Culture Meet ($4.50)
This is for high school and college level people. It is simply the best book available for teachers.

Creative Food Experiences for Children ($4.00)
An excellent buide for the elementary school teacher.

Eater's Digest ($2.50)
Fact book on additives and experimental procedures; the cover will cure your hot dog habit.

White Paper on Infant Feeding Practices ($1.00)
What an infant can take and when; corporate irresponsibility and worse.

All these above materials are available from the Center for Science in the Public Interest --
CSPI Reports
1757 S Street, NW
Washington, D.C. 20009

Other sources:

Diet for a Small Planet, Francis Moore Lappé ($1.95)

One Bowl, Don Gerrard ($1.45)
The simplest approach to personalizing the food experience and espcially weight control. -- Bookworks
1409 Fifth Street
Berkeley, CA, 94710

World Food Crisis, A Self-Education Package ($2.00)
Excellent materials for high school and college level
Committee for Self-Education
11 Garden Street
Cambridge, MA. 02138

Turnover, Magazine of Food Issues (especially the Sugar issue) ($3/yr.)
Newsletter Collective
3030 20th Street
San Francisco, CA. 94110

Food Co-op Handbook, The Co-Op Handbook Collective ($4.95), Houghton-Mifflin.
The best book out on co-ops; history, how-to, directory.

Food For People, Not For Profit ($195) Ballantine.
Over-view of the food issue. Excellent.

FUTURISTICS ON CAPITOL HILL

The Congressional Clearinghouse on the Future is working hard to incorporate futures thinking into the political decision-making process of Congress. After its first eight months, the Clearinghouse has begun to have a discernable impact with Congresspeople and their staffs. Politicians are beginning to recognize that foresight is not only good policy, it is good politics as well.

The Clearinghouse has brought some of the finest minds in the futures field, including Alvin Toffler and Hazel Henderson, to speak to members of Congress. This futures advocacy office, headed up by Ms. Anne Cheatham, publishes an informative nesletter: WHAT'S NEXT. The Clearinghouse office is always putting Congressional staff persons in touch with futures research groups throughout the nation. A great deal of the Clearinghouse's efforts is to facilitate Representatives polling their constituents' viewpoints on future possibilities.

The House of Representatives as a whole has recognized the importance of the futures perspective through its enactment (in the 93rd Congress) of the Foresight Provision. Adoption of this provision was a historic, though widely unrecognized, event. It represents an entirely new policy perspective on the part of one half of the legislative branch of the federal government. The Foresight Provision, an official House rule, reads: "every committee of the House of Representatives (excepting Budget and Appropriations) shall on a continuing basis undertake futures research and forecasting on matters within the jurisdiction of that committee."

The importance of this provision is obvious. Unfortunately, the provision is not being fully enforced. The Congressional Clearinghouse on the Future informs us that some committees comply while others disregard the provision.

FII asks all its readers who think that the time for "anticipatory democracy" has come, to write to their congressional representatives, and in the case of senators, urge adoption of a Foresight Provision in the Senate; ask your representative in the House whether s/he is complying with the provision in his/her committee work. A separate letter should also be addressed to "Tip" O'Neil of Massachusetts, the next Speaker of the House of Representatives, to urge him to fully enforce the Foresight Provision.

A letter writing campaign to urge full compliance with the Foresight Provision will go a long way to seeing that Congress follows through with its commitment to long range planning and futures research.

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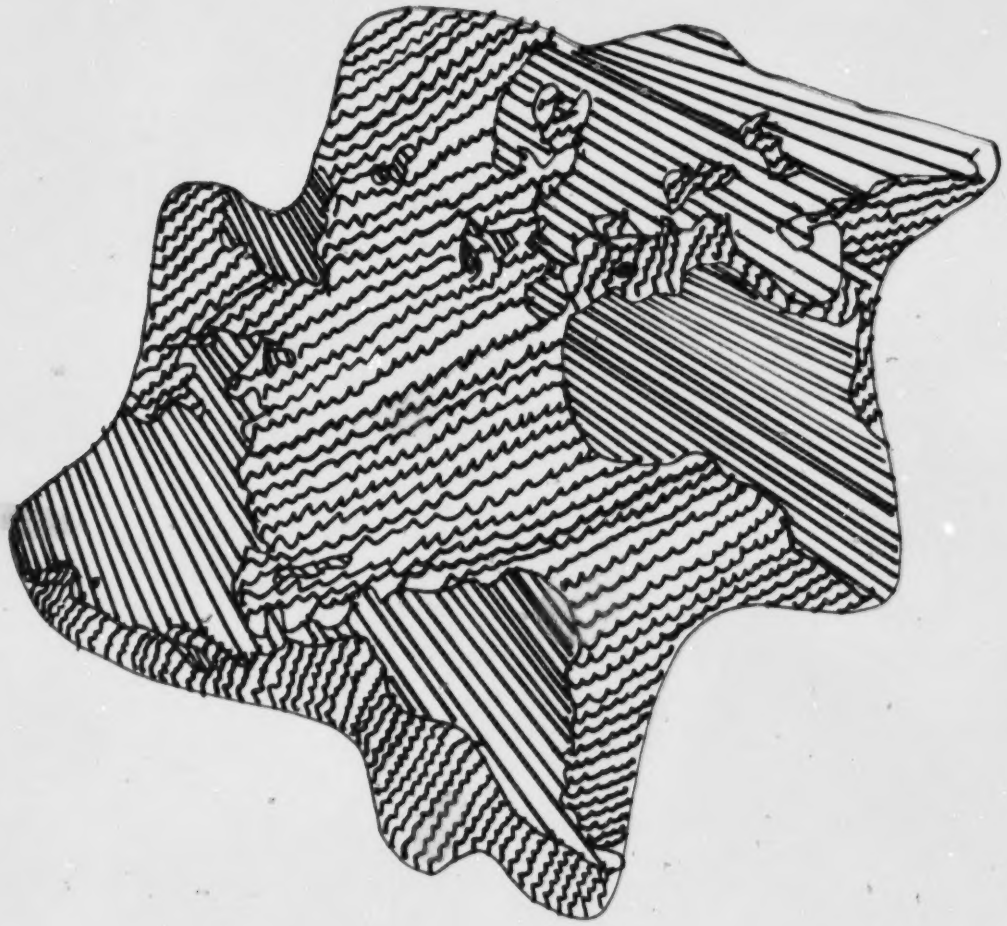
Spring 1977

Futures Information Interchange

Including articles by
Harvey Scribner and Dwight Allen



Heaven only knows where the amoeba will go
as it is being dragged around by its pseudopods.
But for that matter, how do we know where
we are going?

The Futures Information Interchange Newsletter is a collection of practical teaching methods and learning activities for introducing future studies into the classroom. Although the newsletter is directed toward primary and secondary school teachers, it is intended to be of value to educators at the pre-school and university levels also. Contributions to the Newsletter: the newsletter staff welcomes any specific materials related to your future-oriented work in the classroom that you would like to interchange.

* * * * * * *

Consulting

The Future Studies Program has qualified graduate students who are available to schools, non-profit organizations and governments. They will bring educational strategies, audio-visual materials, and curricular materials upon request. Terms of employment are negotiable. For further information, contact Robert Kahn, Future Studies Program.

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Graduate Admissions

The Future Studies Program is searching for persons interested in enrolling in the program as graduate students for 1978 admission. Applicants should write the program for additional information. Affirmative Action applicants are especially encouraged to apply.

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FUTURES INFORMATION INTERCHANGE

Vol. IV No. 1 April, 1977

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INTRODUCING THE SPRING 1977 FII

There was a time--and not so long ago--when my colleagues always asked me what I was doing in so frivolous a "field" as Future Studies. Nowadays, they're more likely to ask for something good to read or for some information on Solar Energy: An indication, perhaps, of how far the study of the Future has come and of where we're likely to go. This issue of FII seems to me fitting evidence of Futurism's progress and promise, and so it merits a few introductory remarks.

First, we have reprinted an "old" (1969) piece by Gary Snyder that still summarizes--as succinctly and eloquently as anywhere we know--our global situation. Dwight Allen has provided a humane orientation toward the problems of man's relationship to technology, particularly in the educational context. Robert Kahn offers some insightful commentary on the uses and abuses of the "Spaceship Earth" metaphor we have taken for granted for so long. Harvey Scribner suggests a "Modest Proposal" which could easily revolutionize both the process and the aim of education. Neal Norris offers a conceptual tool for analyzing the interactions within a culture and for speculating on the impacts of future events. Kathe Chatwood describes a highly successful program which introduces future studies perspectives to students K-12 in Omaha, Nebraska. Dennis Rader offers an analogy which might serve to focus classroom discussion on what otherwise might be an all-too-abstract consideration of such issues as "global consciousness." Finally, Jock McClellan has provided a model--the "Meaning Cube"--which places future-oriented education in the context of humanity's search for a meaningful life.

We also want to take this opportunity to invite you all to this year's Toward Tomorrow Fair (June 24-26) and to the Program's Teachers' Workshop (June 23-27), both of which should be valuable and entertaining ways of up-dating your expertise in the study of the future.

Finally, we want to stress a fact which we have previously mentioned, but which to date has been taken less than seriously: We see the FII as a <u>two-way</u> process. If you have curricular materials, games, simulations or whatever that you would like to share with other Future Studies teachers, please send us descriptions of them -- we'll be very interested in including them in the FII.

Peter Wagschal
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FOUR CHANGES

Gary Synder

I. POPULATION

THE CONDITION

Position: Man is but a part of the fabric of life--dependent on the whole fabric for his very existence. As the most highly developed tool-using animal, he must recognize that the unknown evolutionary destinies of other life forms are to be respected, and act as gentle steward of the earth's community of being.

Situation: There are now too many human beings, and the problem is growing rapidly worse. It is potentially disastrous not only for the human race but for most other life forms.

Goal: The goal would be half of the present world population, or less.

ACTION

Social/Political: First, a massive effort to convince the governments and leaders of the world that the problem is severe. And that all talk about raising food-production--well intentioned as it is--simply puts off the only real solution: reduce population. Demand immediate participation by all countries in programs to legalize abortion, encourage vasectomy and sterilization (provided by free clinics)--free insertion of intrauterine loops--try to correct traditional cultural attitudes that tend to force women into childbearing--remove income tax deductions for more than two children above a specified income level, and scale it so that lower income families are forced to be careful too--or pay families to limit their number. Take a vigorous stand against the policy of the right-wing in the Catholic hierarchy and any other institutions that exercise an irresponsible social force in regard to this question; oppose and correct simple-minded boosterism that equates population growth with continuing prosperity. Work ceaselessly to have all political questions be seen in the light of this prime problem.

The Community: Exlpore other social structures and marriage forms, such as group marriage and polyandrous marriage, which provide family life but may produce less children. Share the pleasure of raising children widely, so that all need not directly reproduce to enter into this basic human experience. We must hope that no one woman would give birth to more than one child, during this period of crisis. Adopt children. Let reverence for life and reverence for the feminine mean also a reverence for other species, and future human lives, most of which are threatened.

Our Own Heads: "I am a child of all life, and all living beings are my brothers and sisters, my children and grandchildren. And there is a child within me waiting to be brought to birth, the baby of a new and wiser self." Love, lovemaking, a man and woman together, seen as the vehicle of mutual realization, where the creation of new selves and a new world of being is as important as reproducing our kind.

II. POLLUTION

THE CONDITION

Position: Pollution is of two types. One sort results from an excess of some fairly ordinary substance--smoke, or solid waste--which cannot be absorbed or transmuted rapidly enough to offset its introduction into the environment, thus causing changes the great cycle is not prepared for. (All organisms have wastes and by-products and these are indeed part of the total bioshphere: energy is passed along the line and refracted in various ways, "the rainbow body." This is cycling, not pollution.) The other sort is powerful modern chemicals and poisons, products of recent technology, which the biosphere is totally unprepared for. Such is DDT and similar chlorinated hydrocarbons--nuclear testing fallout and nuclear waste--poison gas, germ and virus storage and leakage by the miliary; and chemicals which are put into food, whose long-range effects on human beings have not been properly tested.

Situation: The human race in the last century has allowed its production and scattering of wastes, by-products, and various chemicals to become excessive. Pollution is directly harming life on the planet: which is to say, ruining the environment for humanity itself. We are fouling our air and water, and living in noise and filth that no "animal" would tolerate, while advertising and politicians try to tell us "we've never had it so good." The dependence of the modern governments on this kind of untruth leads to shameful mind-pollution: mass media and most school education.

Goal: Clean air, clean clear-running rivers, the presence of Pelican and Osprey and Gray Whale in our lives; salmon and trout in our streams! unmuddied language and good dreams.

ACTION

Social/Political: Effective International legislation banning DDT and related poisons -- with no fooling around. The collusion of certain scientists with the pesticide industry and agri-business in trying to block this legislation must be brought out in the open. Strong penalties for water and air pollution by industries--"Pollution is somebody's profit." Phase out the internal combustion engine and fossil fuel use in general--more research into non-polluting energy sources; solar energy; the tides. No more kidding the public about atomic waste disposal: it's impossible to do it safely, and nuclear-power generated electricity cannot be seriously planned for as it stands now. Stop all germ and chemical warfare research and experimentation; work toward a hopefully safe disposal of the present staggering and stupid stockpiles of H-Bombs, cobalt gunk, germ and poison tanks and cans. Laws and sanctions against wasteful use of paper, etc. which adds to the solid waste of cities -- develop methods of recycling solid urban waste. Recycling should be the basic principle behind all waste-disposal thinking. Thus, all bottles should be re-usable; old cans should make more cans; old newspapers back into newsprint again. Stronger controls and research on chemicals in foods. A shift toward a more varied and sensitive type of agriculture (more small scale and subsistence farming) would eliminate much of the call for blanket use of pesticides.

The Community: DDT and such: don't use them. Air pollution: use less cars. Cars pollute the air, and one or two people riding lonely in a huge car is an insult to intelligence and the Earth. Share rides, legalize hitch-hiking, and

build hitch-hiker waiting stations along the highways. Also -- a step toward the new world -- walk more; look for the best routes through beautiful countryside for long-distance walking trips: San Francisco to Los Angeles down the Coast Range, for example. Learn how to use your own manure as fertilizer if you're in the country -- as the far East has done for centuries. There's a way and it's safe. Solid waste: boycott bulky wasteful Sunday papers which use up trees. It's all just advertising anyway, which is artificially inducing more mindless consumption. Refuse paper bags at the store. Organize Park and Street clean-up festivals. Don't work in any way for or with an industry which pollutes, and don't be drafted into the military. Don't waste. (A monk and an old master were once walking in the mountains. They noticed a little hut upstream. The monk said, "A wise hermit must live there"-- the master said, "That's no wise hermit, you see that lettuce leaf floating down the stream, he's a Waster." Just then an old man came running down the hill with his beard flying and caught the floating lettuce leaf.) Carry your own jug to the winery and have it filled from the barrel.

Our Own Heads: Part of the trouble with talking about DDT is that the use of it is not just a practical device, it's almost an establishment religion. There is something in western culture that wants to totally wipe out creepy-crawlies, and feels repugnance for toadstools and snakes. This is fear of one's own deepest natural inner-self wilderness areas, and the answer is, relax. Relax around bugs, snakes, and your own hairy dreams. Again, farmers can and should share their crop with a certain percentage of buglife as "paying their dues" -- Thoreau says "How then can the harvest fail? Shall I not rejoice also at the abundance of the weeds whose seeds are the granary of the birds? It matters little comparatively whether the fields fill the farmer's barns. The true husbandman will cease from anxiety, as the squirrels manifest no concern whether the woods will bear chestnuts this year or not, and finish his labor with every day, relinquish all claim to the produce of his fields, and sacrificing in his mind not only his first but his last fruits also." In the realm of thought, inner experience, consciousness, as in the outward realm of interconnection, there is a difference between balanced cycle, and the excess which cannot be handled. When the balance is right, the mind recycles from highest illuminations to the stillness of dreamless sleep; the alchemical "transmutation."

III. CONSUMPTION

THE CONDITION

Position: Everything that lives eats food, and is food in turn. This complicated animal, man, rests on a vast and delicate pyramid of energy-transformations. To grossly use more than you need to destroy, is biologically unsound. Most of the production and consumption of modern societies is not necessary or conducive to spiritual and cultural growth, let alone survival; and is behind much greed and envy, age-old causes of social and international discord.

Situation: Man's careless use of "resources" and his total dependence on certain substances such as fossil fuels, (which are being exhausted, slowly but certainly) are having harmful effects on all the other members of the life-network. The complexity of modern technology renders whole populations vulnerable to the deadly consequences of the loss of any one key resource. Instead of independence we have over-dependence on life-giving substances such as water, which we squander. Many species of animals and birds have become extinct in the service of fashion fads -- or fertilizer -- or industrial oil -- the soil is being used up; in fact mankind

has become a locust-like blight on the planet that will leave a bare cupboard for its own children -- all the while in a kind of Addict's Dream of affluence comfort, eternal progress -- using the great achievements of science to produce software and swill.

Goal: Balance, harmony, humility, growth which is a mutual growth with Redwood and Quail (would you want your child to grow up without ever hearing a wild bird?) -- to be a good member of the great community of living creatures. True affluence is not needing anything.

ACTION

Social/Political: It must be demonstrated ceaselessly that a continually "growing economy" is no longer healthy, but a Cancer. And that the criminal waste which is allowed in the name of competition -- especially that ultimate in wasteful needless competition, hot wars and cold wars with "communism" (or "capitalism") -- must be halted totally with ferocious energy and decision. Economics must be seen as a small sub-branch of Ecology, and production/distribution/consumption handled by companies or unions with the same elegance and spareness one sees in nature. Soil banks; open space; phase out logging in most areas. "Lightweight done and honeycomb structures in line with the architectural principles of nature." "We shouldn't use wood for housing because trees are too important." Protection for all predators and varmints. "Support your right to arm bears." Damn the International Whaling Commission which is selling out the last of our precious, wise whales! Absolutely no further development of roads and concessions in National Parks and Wilderness Areas; build auto campgrounds in the least desirable areas. Plan consumer boycotts in response to dishonest and unnecessary products. Radical Co-ops. Politically, blast both "Communist" and "Capitalist" myths of progress, and all crude notions of conquering or controlling nature.

The Community: Sharing and creating. The inherent aptness of communal life -- where large tools are owned jointly and used efficiently. The power of renunciation: If enough Americans refused to buy a new car for one given year it would permanently alter the American economy. Recycling clothes and equipment. Support handicrafts -- gardening, home skills, midwifery, herbs -- all the things that can make us independent, beautiful and whole. Learn to break the habit of unnecessary possessions -- a monkey on everybody's back -- but avoid a self-abnegating anti-joyous self-righteousness. Simplicity is light, carefree, neat, and loving -- not a self-punishing ascetic trip. (The great Chinese poet Tu Fu said "The ideas of a poet should be noble and simple.") Don't shoot a deer if you don't know how to use all the meat and preserve that which you can't eat, to tan the hide and use the leather -- use it all, with gratitude, right down to the sinew and hooves. Simplicity and mindfulness in diet is a starting point for many people.

Our Own Ideas: It is hard to even begin to guage how much a complication of possessions, the notions of "my and mine" stand between us and a true, clear, liberated way of seeing the world. To live lightly on the earth, to be aware and alive, to be free of egotism, to be in contact with plants and animals, starts with simple concrete acts. The inner principle is the insight that we are interdependent energy-fields of great potential wisdom and compassion -- expressed in each person as a superb mind, a handsome and complex body, and the almost magical capacity of language. To these potentials and capacities, "owning things" can add nothing of authenticity. "Clad in the sky, with the earth for a pillow."

IV. TRANSFORMATION

THE CONDITION

Position: Everyone is the result of four forces--the conditions of this known-universe (matter energy forms and ceaseless change); the biology of his species; his individual genetic heritage; and the culture he's born into. Within this web of forces, there are certain spaces and loops which allow total freedom and illumination. The gradual exploration of some of these spaces is "evolution" and, for human cultures, what "history" could be. We have it within our deepest powers not only to change our "selves" but to change our culture. If a man is to remain on earth he must transform the five-millenia-long urbanizing civilization tradition into a new ecologically-sensitive harmony-oriented wild-minded scientific/spiritual culture. "Wildness is the state of complete awareness. That's why we need it."

Situation: Civilization, which has made us so successful a species, has overshot itself and now threatens us with its inertia. There is some evidence that civilized life isn't good for the human gene pool. To achieve the Changes we must change the very foundations of our society and our minds.

Goal: Nothing short of total transformation will do much good. What we envision is a planet on which the human population lives harmoniously and dynamically by employing a sophisticated and unobtrusive technology in a world environment which is "left natural." Specific points in this vision:

A healthy and spare population of all races, much less in number than today.

Cultural and individual pluralism, unified by a type of world tribal council. Division by natural and cultural boundaries rather than arbitrary political boundaries.

A technology of communication, education, and quiet transportation, land-use being sensitive to the properties of each region. Allowing, thus, the Bison to return to much of the high plains. Careful but intensive agriculture in the great alluvial valleys; deserts left wild for those who would trot in them. Computer technicians who run the plant part of the year and walk along with the Elk in their migrations during the rest.

A basic cultural outlook and social organization that inhibits power and property-seeking while encouraging exploration and challenge in things like music, meditation, mathematics, mountaineering, magic, and all other ways of authentic being-in-the-world. Women totally free and equal. A new kind of family -- responsible, but more festive and relaxed -- is implicit.

ACTION

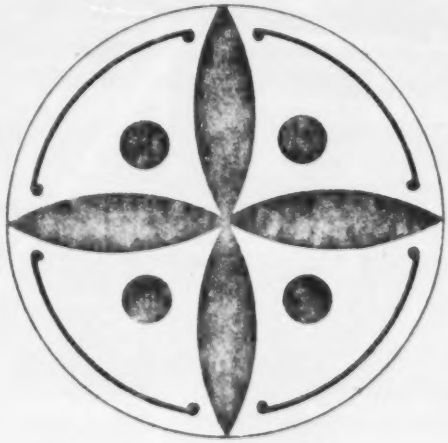
Social/Political: It seems evident that there are throughout the world certain social and religious forces which have worked through history toward an ecologically and culturally enlightened state of affairs. Let these be encouraged; Gnostics, hip Marxists, Teilhard de Chardin Catholics, Druids, Taoists, Biologists, Witches, Yogins, Bhikkus, Quakers, Sufis, Tibetians, Zens, Shamans, Bushmen, American Indians, Polynesians, Anarchists, Alchemists . . . the list is long. All primitive cultures, all communal and ashram movements. Since it doesn't seem practical or even desirable to think that direct bloody force will achieve much, it would be best to consider this a continuing "revolution of consciousness" which will be won not by guns but by seizing the key images, myths,

archetypes, eschatologies, and ectasies so that life won't seem worth living unless one's on the transforming energy's side. By taking over "science and technology" and releasing its real possibilities and powers in the service of this planet -- which, after all, produced us and it.

Our Community: New schools, new classes, walking in the woods and cleaning up the streets. Find psychological techniques for creating an awareness of "self" which includes the social and natural environment. "Consideration of what specific language forms--symbolic systems--and social institutions constitute obstacles to ecological awareness." Without falling into a facile interpretation of McLuhan, we can hope to use the media. Let no one be ignorant of the facts of biology and related disciplines; bring up our children as part of the wild-life. Some communities can establish themselves in backwater rural areas and flourish -- others maintain themselves in urban centers, and the two types work together -- a two-way flow of experience, people, money, and home-grown vegetables. Ultimately cities will exist only as joyous tribal gatherings and fairs, to dissolve after a few weeks. Investigating new life-styles is our work, as is the exploration of Ways to explore our inner realms -- with the known dangers of crashing that go with such. We should work with political-minded people where it helps, hoping to enlarge their vision, and with people of all varieties of politics or thought at whatever point they become aware of environmental urgencies. Master the archaic and the primitive as models of basic nature-related cultures -- as well as the most imaginative extensions of science -- and build a community where these two vectors cross.

Our own heads: is where it starts. Knowing that we are the first human beings in history to have all of man's culture and previous experience available to our study, and being free enough of the weight of traditional cultures to seek out a larger identity. -- The first members of a civilized society since the early Neolithic to wish to look clearly into the eyes of the wild and see our self-hood, our family, there. We have these advantages to set off the obvious disadvantages of being as screwed up as we are -- which gives us a fair chance to penetrate into some of the riddles of ourselves and the universe, and to go beyond the idea of "man's survival" or "the survival of the biosphere" and to draw our strength from the realization that at the heart of things is some kind of serene and ecstatic process which is actually beyond qualities and certainly beyond birth-and-death. "No need to survive!" "In the fires that destroy the universe at the end of the kalpa, what survives?" -- "The iron tree blooms in the void!"

Knowing that nothing need be done, is where we begin to move from.



EDUCATION IN THE YEAR 2000: TOWARD A HUMANE TECHNOLOGY

Dwight W. Allen

It is hard to envision a reality for education in the year 2000 when we still see education being dragged, kicking and screaming, into the technological world of the twentieth century. Schools and teachers are still boggled when it comes to dealing with radio, television, audio cassettes, and, most recently, the fifteen dollar calculator which third graders, it is rumored, now stash in their lunch boxes for homework time.

Indeed, technology is a scary word for teachers. It implies wires and programming, behaviorism and dehumanization. But our fear comes from not understanding. And without this understanding, technology may just overcome the schools and then we will have a real, justified reason for fearing the machine. If teachers are afraid that technology will make their jobs unnecessary, so be it. In fact, let's say now that any teacher who can be replaced by a machine should be.

To reinforce this proposal, let me cite a personal example. It was only fifteen years ago, two years after I had begun research on computer generated scheduling for schools, that a leading textbook in educational administration commented that computer based scheduling was theoretically impossible. Now, fifteen years later, computer generated scheduling is a part of almost every large secondary school and we still have assistant principals (who used to spend the better part of each spring trying to fit a thousand kids into 25 periods a week) who have more freedom to use their time in a more creative capacity. There are undoubtedly many things that we now have not considered, or, that we think to be impossible, which in the year 2000 will be routine.

The future and success of education will depend largely on how effectively technology is utilized in the classroom. Though technology is inevitable, its effective utilization is impossible under existing, outmoded educational structures. Just as we abandoned the horseless carriage as a viable means of mass transportation, so must we abandon the structures of education which were built for a reality we have long surpassed. We need to mold education around technology in order to maximize the machine for the good of humanity.

What we must first examine, then, as we look forward to the year 2000 is not what technology will be available, but how we can build a vision to use technology for the release of human potential; even more significantly, what technology should be developed or applied to the educational process to achieve the human goals we have selected to be important. For example, memorization will no longer be necessary as a part of the <u>acquisition</u> of knowledge but focus on <u>access</u> to knowledge. It will be more important for students to know where to find what they need and how to gain access to it when they need it. It will be totally unnecessary for students to carry in their heads a body of knowledge which represents the fruit of memorization. This does not mean that memorization will disappear from the curriculum. Rather, it may mean that memorization will take on aesthetic and spiritual consequences instead of being factually oriented.

We must admit to ourselves that education is indeed on the verge of revolution. It will be a revolution which will prepare education to assume a crucial role in the twenty-first century: a role which will allow man to become increasingly in control

of his destiny and his environment; a role which will make him more sensitive to an appropriate relationship with his fellow man; as well as a role which will become self-accelerating. For as education becomes more productive, the pace of change in society will become greater. Once we can master the change process in education and society, the unleashing of human potential will soar beyond our wildest dreams and highest aspirations.

This should not be a scary thought, but a very exciting thought for anyone involved in education.

By facing the technological world with such an attitude, we can free ourselves to address some of the more fundamental questions facing education and society. It is the assumptions of society which command that educational imperatives be examined. What is the purpose of education? Is it to sort society into a series of elites, or is it to create more room for more elites? Will education continue to perpertuate the myth that all men have been created equal in all ways, or seek to find ways to enhance the differences of mankind and assist man to achieve the vastness of his diverse potential? Each seed contains a different potential. There are certain common requisites for seeds to grow and certain individual attention which they must each receive to gain their full potential. They must be planted at different places and in different ways and in different seasons. Perhaps the most important lesson to learn is the lesson of balance: certain processes enhance the potential of mankind in moderation. Too much heat will wither the plant. Too much water will wash the plant out. As we develop new models of education, we must keep in mind the balance which is the vital requisite for productive human society.

We now need to dream a dream of an education which can accomplish as much as we see consistent with the vision of a productive society; a society which can be productive only after we have re-examined our basic values; come to grips with man's ultimate purpose; recognized, accepted and encouraged the oneness of mankind, and chosen a new relationship between man and his environment.

More immediately, education must speak to the appalling direction of man's passivity. Within a single generation we have glued ourselves to our television sets for a majority of our leisure hours. Education must speak to the diversity of options which make us human: the choices which are there to be made beyond the selection of which of three television networks to watch. One of the greatest challenges of education will be the challenge of the use of leisure time. For, increasingly, man's physical wants and needs will be satisfied with less attention and less focus. Keeping up with the Joneses will not be as important as putting up with the Joneses and Molesanis and Garcias.

In short, the need for effective educational change is more immediate than we think. The impetus must come in the form of an all-out effort to reshape the education system for the year 2000. Just as President Kennedy unleashed the talent of a nation when he promised a man on the moon by the end of the decade, we must focus that talent once again on a new educational vision for mankind. Certainly we have the technological potential to achieve any vision for the future role of education in society we desire. If we set the priorities, we have the talent. Our problem is not the technology of education; our problem is the vision and value of education and its role in society. Perhaps it is even time to take education out of the hands of the educators and to make it the concern of the entire society. We educators have been mucking around with conceptual semantics for too long already.

And only when we are seriously involved in such an effort can we face the three objectives of education in the year 2000: to understand, control and exploit our physical environment; to build meaningful interpersonal relationships as individuals and as a society; and to gain the perspective which enables us to contemplate, with tranquility, the purpose of life.

REFLECTIONS ON THE METAPHOR FOR GLOBAL SURVIVAL: "Spaceship EARTH"

Robert Kahn

The metaphor most commonly used to enhance global awareness and responsibility is "Spaceship Earth," coined by Buckminster Fuller. Adlai Stevenson employed it in the fifties, economist Barbara Ward used it in the early sixties, and in the seventies, Spaceship Earth is very much in vogue; it is used by educators, corporate and government spokespeople, environmentalists and economists.

The metaphor has been a leading descriptor in society's dialogue about the future of planet Earth and its inhabitants. Yet many critics have spoken about dangers they see in the Spaceship Earth metaphor. Their arguments warrant examination, and remind us that the more profound the metaphor, the greater the possibilities for misunderstanding or misuse of its message. Educators, in particular, should be aware of the range of implications associated with the term; they need to be sensitive to arguments about it since Spaceship Earth should not be taken at "face value."

G. Tyler Miller, author and editor of the superb environmental sciences textbook (for late secondary and undergraduates) LIVING IN THE ENVIRONMENT has written:

> The danger of 'Spaceship Earth,' as perceived by many, is that we use the astronauts as the model for solving our problems. We must control and manage parts of the ecosphere, but using a spaceship crew as the ultimate model for solving our problems poses a dire threat not only to individual freedom, but also to ecosphere stability through the creation of a highly vulnerable human monoculture.

For the critics, Spaceship Earth represents a world view that would have us see the planet Earth in the terms of a human-engineered space vehicle.

It is the neo-Malthusians who are most often critical of Fuller's metaphor. Their position holds that since planet Earth's resources are finite, disaster on a global scale will result if we continue our patterns of economic growth. We exacerbate the problem when we cling to the concomitant faith that technological finesse will alleviate any and all problems. Furthermore, this school argues that we humans must surrender our childish notion of "control" over nature which is the philosophical and technical groundwork of the modern world. For the neo-Malthusians, it makes little difference that the Earth could be better managed if seen as a "spaceship," since they--e.g., Miller, Lewis Mumford, Theodore Rozack and Philip Slater--maintain that it is the idea of control itself which is the root of the global problematic.

The other school of global analysis, the pro-Growth advocates, is largely comfortable with the Spaceship Earth metaphor. For people like Robert Revelle, Herman Kahn and Gerrad O'Neill, solutions to global problems can only be reached through innovative technology, enlightened management and planning. There is no turning back: progress, they argue, is the only path open to us. From this perspective, we only have to fear a failure (to borrow Arthur Clarke's phrasing) of "imagination and nerve."

The pro-Growth and neo-Malthusian schools' take contrary positions on the issue of global population and food supplies. For the Malthusians, the options are clear: choose "triage" as Garrett Hardin would have it, or distribute the wealth more equitably as the majority of the school prefer. In any event, we cannot increase our agricultural yields much longer; population must begin to fall in line with what we can reasonably produce over time. The Growth advocates point to the research work currently underway in aquaculture and artificial food manufacture. Artificial moons could be launched into orbit to shine light onto productive agricultural areas 24 hours a day - there are countless examples they would claim, of how we could feed expanding populations perhaps reaching as high as 15 billion persons. Furthermore, O'Neill, et al. claim, that orbiting space cities will offer a realistic option for population growth if the numbers ever come near to getting out of hand.

Certainly, a cursory sketch such as the one above could never do justice to the arguments which fall either in between or off to either side of those suggested here. Our purpose is only to suggest the approximate range of positions, and the role that the Spaceship Earth metaphor may play in representing these. The pro-Growth advocates seem comfortable with the image; the neo-Malthusians are uncomfortable with it, and have gone so far as to invent another: "earthmanship."

"Earthmanship," the neo-Malthusians claim, implicitly carries with it suggestions of the limitations of human capability. Earthmanship sets our activities in the context of the infinitely more sensitive and successful mechanisms of nature herself. This metaphor insists that humanity's efforts to control nature must be substituted for protection and maintenance of her a priori mechanisms of self-regulation. It is impossible for humanity to ever "better" nature's processes, to try to do so is suicidal. We will have to learn to live within her limits. Earthmanship calls for a committment to husband nature's resources and to tred lightly upon the planet. Furthermore, this alternative to the Spaceship Earth metaphor, suggests stewardardship, which is a very different idea from our notion of ownership. A steward is but a temporary guardian who is comfortable in believing with Roy Rappaport, that "Knowledge will never replace respect in humanity's dealings with ecological systems."

But to return to our discussion of the Spaceship Earth metaphor... The neo-Malthusians argue that Spaceship Earth suggests that we see the Earth as a spaceship - a perspective that angers and frightens them. Yet it is equally logical to interpret the metaphor to mean that we should see spaceships as models of the Earth, which are impossible without a thorough understanding of natural processes. Furthermore, it was a spaceship which returned to Earth those beautiful photos of this blue orb - photographs which seem to have helped mobilize concern about global problems.

The Spaceship Earth metaphor is paradoxical. It suggests two contrary perspectives which incorporate the hazards and wonders of our time. The metaphor is something like a gem, which when viewed from different angles is seen as very different. The metaphor does not belong in either of the conceptual arsenals of the neo-Malthusians or the pro-Growth advocates - Spaceship Earth succeeds in spanning the concerns of the two schools and challenging both.

A metaphor such as Spaceship Earth should be handled with care. Educators can incorporate the term and use it to help their students better understand the nature of present and future global problems. Spaceship Earth demands thought and contemplation, just as it demands action and hope.

TO ENABLE IS TO ENOBLE

Harvey B. Scribner

Our society is fraught with an ailment which permeates both the thinking and actions of those in power. Whether it be Foreign Policy or Domestic Issues--the "ins" of our society tend to cling to the mindless notion of "We'll do it for you' as contrasted with the idea of "enabling others to do for themselves." The short term action of temporary alleviation of the crisis appears to have a higher priority in our planning strategies than long range efforts to try to eliminate the cause. Quite obviously, treating the symptoms of non-achievement, non-conformity, hunger and other people-type disasters with "more teaching," "more discipline" and "more hand outs" via larger bureaucracies and added funding is simpler and more politic, demands less creativity and less political risks than identifying and dealing with the real causes.

The point of this paper is--isn't it time for us to bite the proverbial bullet and place the welfare of people above personal politics? Isn't there someone in the decision-making role who is ready, willing and able to risk the decision of enabling the victims to do for themselves? The point is--isn't there someone in power who will use the same level of funding currently expended for those who are under-achieving, those who are damning the services by others, those who are suffering from hunger and other maladies to work realistically on their own problems? This would be in sharp contrast with the current common practice of the "ins" benefitting from the troubles of the "outs."

Neal Postman, Professor at New York University, in 1970 published an article called "A Fable." It was first carried as "A Fable" in the New York Times in 1970, and when New York City hit the skids in 1975, the same article reappeared as "A Fable Whose Time Has Come." In essence Postman was saying that, "the students in the public schools heretofore had been part of the general problem (of the city) whereas, with some slight imagination and a change of perspective, they might easily become part of the general solution." What Postman was saying about the youth and the problems of New York City could be equally enlightening to any other community in this country. The youth are there, the need is apparent, the resources are abundant--the missing link appears to be "some slight imagination and a change of perspective."

Indeed, we sit on the brink of potential solutions to the plaguing problems of the "inner city." Yes, the solution promoted here will be fraught with a myriad of problems. The key decision to be weighed is--will the crises created through a program of "self-help" be greater than the current ills of graft, non-accountability, crime, an increasing sense of hopelessness and the creation of more millions of "have nots" in our society? Have we had enough of a governance system which accelerates the power and benefits to the "ins" in our country and contributes daily to the loss of dignity, self-responsibility and degradation of the "outs?" Lastly, and yet more critical, how long can we survive as a society on our present path ..... which divides our country into the two camps of "those who have" and "those who have not?" Or, "those who hope" and those who are "hopeless?"

The recommended reform presented here is too simple to pass off lightly. It requires no additional dollars. It hits directly at the issues of economics for those in need. It moves from the current welfare-type prescriptive programs which

are miserable failures for the depressed. It gets directly to the causes. Funds currently spent for policing, collecting garbage, maintaining fire safety, providing health services and schooling the inner city or any designated section of the inner city would merely be expended at the current rate. Creativity and courage on the part of the current decision-makers is needed to implement the following steps:

1. Calculate the per capita expenditures currently planned for the targeted area for all services and make those funds available for this new approach.

2. Enable the residents of the targeted section of the inner city to elect in accordance with currently established State and local voting procedures a governing commission. Only persons holding legal residence in the area are eligible to either vote or to serve on the governing board.

3. The elected governing board would have available for the services of policing, fire protection, sanitation, health services and education a level of funding equal to the monies currently spent in the targeted area.

4. All persons serving the targeted area whose jobs would come under the responsibilities of the newly organized governance board should be granted the following option: if roles similar to existing roles are utilized by the newly organized governance board, all jobs, which are re-activitated should be maintained by present holders providing they live or (within a specified period of time) become a full resident of the targeted area.

5. Laws and regulations promulgated by Federal and State Legislature and their agencies, and only those laws and regulations, should apply to the governing board of the targeted area.

Clearly, the recommended reform is simple. It becomes complex only when one delves into the age-old custom of (a) placing personal gain above gain for others, (b) making subjective judgment about the inabilities of others to make decisions for themselves, and (c) lacking the vision to project the risks involved in the continuation of a social practice which demeans, defeats and dehumanizes millions of people who have neither hope nor courage to resolve their problems.

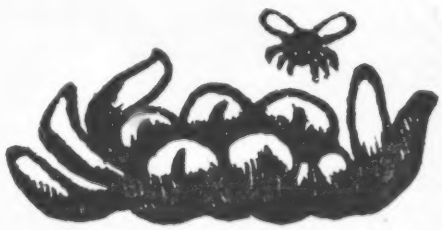
The reform, simple as it is to implement, opens many new avenues of hope. Inner city people will govern themselves. Accountability will not be left to the "downtowners"--it will flow from voter to elected local folk and back to voter. Though the system may have failures, the faults would lie within the voter--not because others failed the voter.

Education for the youth and the parents of the target area would come alive. The process of solving their own problems of policing, cleaning, and educating the youth would become an education in itself. Both the young and the old--everyone--for the first time in this century would have a stake in their own neighborhood. Education which until the reform had been relegated to the four walls of the school building would now be seen in a new context. Time would be allotted and serious concern given to the basic skills. Those skills would, however, be tied to the new way of living--saving the neighborhood. In addition, the youth and the school would

be realistically involved in the process of enhancing the quality of life. Caring for the young, concern for the elderly, publishing a neighborhood letter, plantings, art work, neighborhood services would become a part of living/learning in the rehabilitated neighborhood.

As Neal Postman clearly indicated in his article, "A Fable Whose Time Has Come" the youth of the area "will find their education in the process of saving their city." Postman correctly argued that "the students in the public schools had heretofore been part of the general problem whereas, with some slight imagination and change of perspective, they might easily become part of the general solution."

Why not give it a try? The only obstacles to reaching for a highly potential solution to a serious problem have been placed there by people. Are there not people seriously enough concerned to remove them and get going on a program of hope? All of the rhetoric concerning educational reform is pure fantasy until we tackle the problems of their root. Unemployment, inadequate pay, housing conditions, malnutrition are part and parcel of education. The need has never been greater for attempting an economic program which could benefit the victim, society in general, and provide a workable base for educational reform.



THE CULTURE/SOCIETY MODEL: A MULTI-DIMENSIONAL CONTEXT FOR ALTERNATIVE FUTURES

Neal A. Norris

From the very beginning of recorded history, and quite probably before, man has almost unconsciously incorporated into his world view the assumption of a future. Indeed, this assumption can be found flowing through most religions and philosophies; much of art, music, and literature; and the physical sciences as well. Much of life, it seems, implies a future dimension. This pervasive concept of the future is essential to any meaningful analysis and understanding of history.

Unfortunately, the very way that history was and still is being taught to social science educators has strongly tainted their historical perceptions with a predisposition toward the past, rather than the present and future dimensions. This happens despite the fact that most, if not all, theories of historical development pre-suppose a future dimension, however vague or indeterminate. Too often we are taught to enshrine this past orientation and to simplistically label as utopian those few who have ventured speculations about the future. Moreover, facts and events are usually presented in such a fashion that the historical sequence appears to be inevitable--as though the past could only have happened one way! The implication of this reductive attitude is that there can be only one future that will develop from the past and present. This traditional cluster of attitudes no longer seems appropriate in an era whose many macro-problems are of an increasingly exponential rather than linear nature.

The common result of all this can still be seen in most social studies classrooms: the frustrating absence of a viable framework around which to organize basic conceptual experiences. The recent popularity of such one-dimensional formulations as Edwin Fenton's inquiry approach to the teaching of "the new social studies," further italicizes the point that most students still do not receive the needed multi-dimensional synthesis of fact and concept. Historians and educators must shake off their fundamental reticence concerning this future dimension if they hope to develop new methods of analyzing and evaluating that future. A new relationship among past, present, and future dimensions must be established which draws upon the knowledge and wisdom of the first two in order to create more meaningful future alternatives.

One methodological framework for organizing and analyzing possible futures resulted from my own educational frustrations compiled during that traumatic first year of teaching. I have since refined the model and used it successfully in middle, high school, and college classes. A simplified two-dimensional version appears below.

A series of concentric circles (or spheres to add another dimension) indicate the relationships among the person, family, culture, and society. The individual is placed in the center of this concentric structure, since the person is the fundamental unit that comprises any social arrangement. The family immediately surrounds the individual, offering comfort, lending support, and generally acting as an important training ground and buffer zone between the individual and the larger culture and society.

Society, on the other hand, offers a common pattern of values, beliefs, and behaviors to all individuals through its particular culture. While it should be emphasized to students that some cultures transcend any one particular social setting

and some societies contain many subcultures as well as a dominant one, this organizational structure has been a widely used human pattern. This point could be the focus of a general discussion of the appropriateness and comparative value of the model's organization.

I have found this approach a useful way of stimulating serious reconsideration of fundamental socio-cultural value priorities at the high school and college levels, while allowing an inquiry-discovery format in junior high and middle school settings. Several lessons could easily be expanded to a full-scale project of discovery and comparison of our culture/society to other culture/societies, whether primitive, contemporary, or extraterrestrial. Imaginative spin-off activities, such as possible future culture/societies, could also be initiated by teachers or students.

The rest of the model relates the basic societal elements to the contextual structure. These basic components--politics, economics, science, religion, technology, the military, industry, transportation, communication, energy, environment, education, agriculture, and the arts--cut through all levels of society and influence its growth, experience, and behavior. Each social layer interacts with, and in turn, affects each of the basic societal components in a multitude of ways.

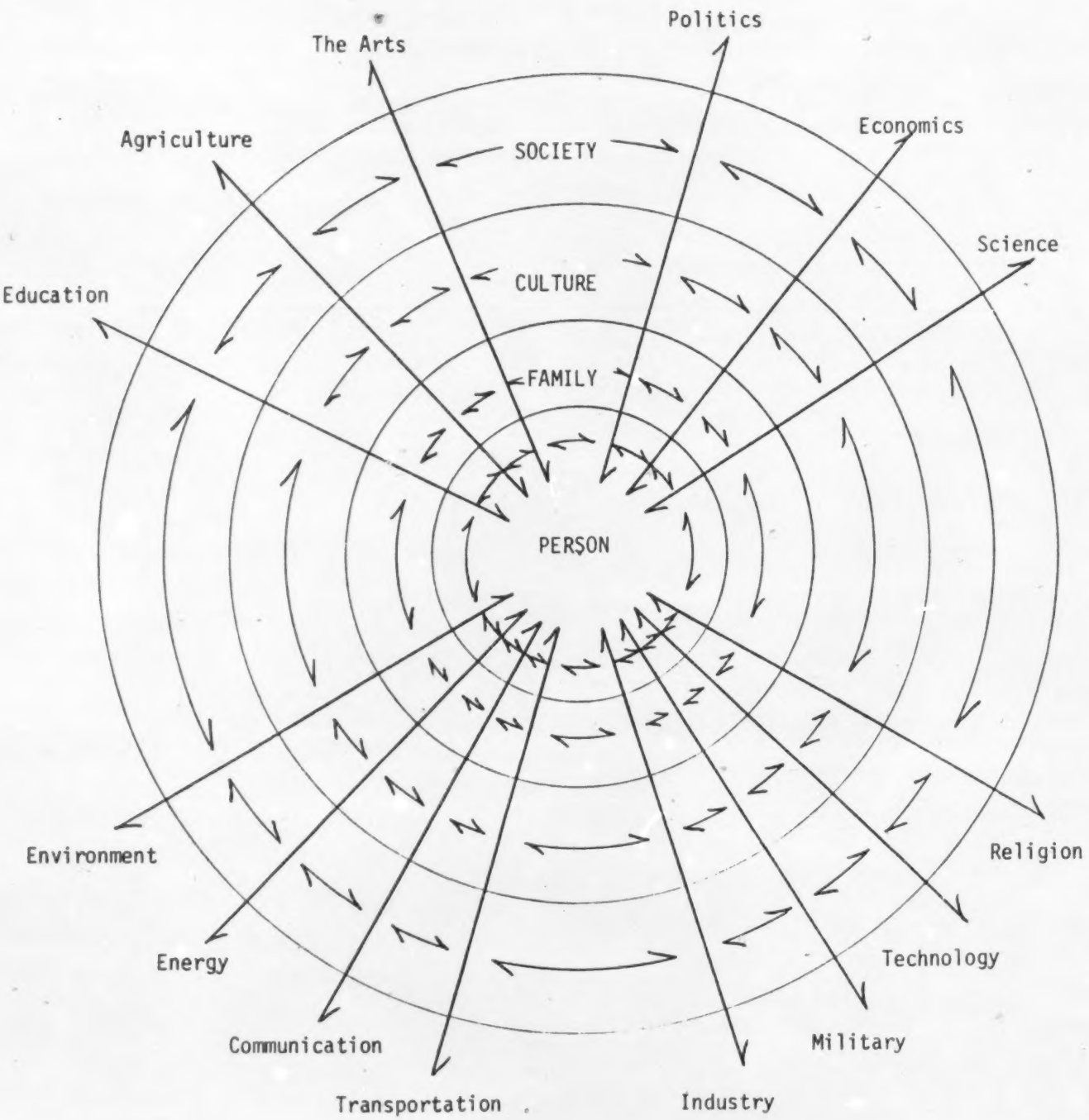
To give students some feeling for the vibrant, pulsating interaction that actually occurs within and among societies, the instructor next introduces what I have called a societal tracer. This societal tracer is analogous to its radioactive counterpart. Just as radioactive tracer elements are injected into a patient's body to trace the path or determine the location of some physical disease, so societal tracers are introduced into our culture/society model to identify the complex, interacting relationships that exist among all layers and elements. These tracers, in the form of ideas, events, issues, innovations, discoveries, or developments, may enter through any of the basic components previously discussed. They may also enter during any time or space dimension!

Let us assume, for example, that the teacher wishes to model a possible near future American culture/society for his or her class. The massive production and application of sophisticated computers is introduced as a societal tracer into the model via the technology component, since micro-miniaturization of certain computer hardware has just become financially feasible. Immediately the effects of this development filter throughout the model, drastically influencing some layers and elements while only routinely affecting others.

The task of discovering the magnitude or consequences of this tracer now proceeds through each level and every element. The instructor can initially prompt students to grasp the tracer concept by first discussing some similar past events. The mass production of the automobile is one obvious precedent, while the recent examples of battery-operated hand calculators and LED crystal watches may also help eliminate some of the initial confusion.

Both law enforcement and legislative agencies could use these computers as information compilers and analyzers. As the economic system becomes increasingly complex and interrelated, computer-controlled assembly lines and forecasting techniques would drastically alter the composition of industry, as well as the meaning of work for humans. Computers could be used to aid psychiatrists in their analysis of patients' experiences, and doctors would apply them in diagnosing brain disorders.

THE CULTURE/SOCIETY MODEL



The religious impact of the massive use of computers throughout society could be quite profound. When humans are faced with large amounts of leisure time after they have been displaced by automated assembly lines and surrounded with long-range economic forecasts based on computer simulations, the religious dimension of these social and cultural upheavals would indeed be immeasurable.

The implementation of sophisticated computer-controlled weapons, command, and communications systems--and the eventual introduction of computerized, nuclear-powered robot soldiers--would present some staggering military implications for all culture/society levels and components. In agriculture, computer-assisted animal breeding techniques would not only be decentralized but would also spread to small farms in addition to the larger agri-corporations.

Our transportation systems would also become more susceptible to computer guidance and control. Autos could be individually computerized to control course, speed, braking, and fuel systems. Present use of computers in airline scheduling and train routing could be increased. Batteries of mini-computers could be applied to aid network telecasting and programming. Computer-enhanced photo-composition methods could accelerate publishing of printed materials. Whole libraries could be stored in the memory chips of a desk-top computer and selected material recalled at will.

The telephone system, already heavily dependent upon computer use, could be improved termendously. Small, inexpensive computer terminals in most homes would allow computer conferencing to develop on a world-wide basis. Computer assisted instruction could rapidly become a reality, encouraging truly individualized learning experiences.

The arts would continue to be affected both graphically and musically by the new computer revolution. Perhaps whole new schools of art would emerge to protest the massive use of computers, much as happened in the beginning of the 20th century.

As the effects of this miniaturization revolution rebound throughout the culture/society, each level will be influenced in many ways. A new man-machine relationship may develop, involving mankind in new ethical dilemmas of great import.

These are only a few of the possible effects of the massive availability of inexpensive computers. With a little effort, every teacher could compile a brief sketch of possible tracer effects as it spreads throughout the system. Surprisingly, students seem to rapidly internalize both the tracer concept and the model as a whole. Unknown interests and new feelings of identity may also appear when students see the interrelatedness of all the events occurring within our society.

Although space prohibits a thorough presentation of the innumerable ramifications of this tracer, the culture/society model's potential as a multi-dimensional thought-tool for comprehensive analysis, synthesis, and evaluation should be apparent. It offers the possibility, finally, of effectively incorporating these higher, too often neglected, thought processes of the cognitive domain into the learning process.

The culture/society model should in no way be seen as another of those faddish final solutions to which we educators often succumb. It is not a palliative; it is a tool--one of many--that might help us teach students to think more comprehensively and to creatively develop alternative solutions to anticipated problems.

The Westside Story--Future-oriented Education in Action

Kathe Chatwood

The study of the future is too often relegated to an inferior status in school curricula. Such an omission of a futures time perspective constitutes an oversight in our educational system's response to the needs and wants of the communities to which they are responsible--interest in and hope for their children's future is an active concern of parents in school districts throughout the nation. The Westside Community Schools of Omaha, Nebraska, prove this fact with a Title III program entitled "Preparation for the Future: An Alternative in Process Education." The project is currently in its second of a three-year long funding term which provides for the design of curricula and teaching strategies which introduce future studies processes and concepts in several academic areas, K-12.

Impetus for development of the program originated with a district-wide needs and goals assessment survey through which parent, teacher, student, and community groups determined the direction and priorities for the school system. This process determined preparation for the future as one of the top ten concerns of the community; one that the school system needed to address in order to provide realistic personal and educational decision-making opportunities for its students.

A grant task force consisting of a small core of five future-oriented junior high teachers at Arbor Heights, Westbrook and St. Joan of Arc Schools, encouraged in their efforts by a progressive administration, designed the scope and sequence of the future studies curricular project. The project was funded in the summer of 1975. The team of teachers, coordinated by Project Director Geneve Selsor, created materials and student experiences which integrated futures perspective and content into existing school curricula in the interdisciplinary areas of Language Arts, Social Science, and Science. The second and third years of the project provide for teacher inservice training and curriculum creating opportunities for high school and grade school faculty in the district.

In preparing students for study of the future, the project focuses on processes for (1) helping students develop the attitude that they can be actively involved in influencing their own future, (2) clarifying their personal value system and goals, and (3) anticipating and adapting to change. Students in the program must be able to recognize and state future and current social problems, collect and evaluate relevant data, select and generate alternative solutions for problems based on data acquired, and be prepared to suggest means and solutions. Students studied a range of future studies-oriented topics (i.e.: solar energy, genetic engineering trends, pollution and food production data, alternative life styles and community organization methods.)

The curriculum of "Preparation for the Future" in the first year model was a spiralling one which built skill upon skill and concept upon concept in order to, in the final quarter of the project, produce student-originated models for meeting future challenges. The emphasis during the first (Language Arts) quarter focused on improving communication skills and promoting development of the students' personal sense of values. It introduced each student to the skills and vocabulary necessary to project the present into the future, including examination of decision-making,

leadership and environmental life-styles. Examining values positively in the social and artistic realms is an essential starting point for any future studies program in order to engender optimism on the part of the student in the face of this feeling of helplessness to affect change engendered by the media.

During the second (Social Science) and third (Science) quarters, students sharpened their inquiry and problem-solving techniques and demonstrated a competency to design, develop, and apply a specific forecasting technique within selected parameters of investigation, (e.g.: surveys, polls, cross-impact analysis, Delphi searches). Students applied the results of their inquiry to specific areas of social and environmental concern within the community, stating their findings through community media.

During the fourth quarter, students transferred accumulated classroom experience into an appropriate community situation. They investigated the short and long-range goals of community institutions in their area of interest such as hospitals, businesses, governmental, and environmental agencies. Individuals in these community organizations worked with the students in gathering information and conducting interviews. The school provided all the necessary teacher assistance as well as contingent field or research trips for the students. With the conclusion of the field experience, students synthesized findings and developed either a film, photographic essay, slide tape or video-tape model which reviewed the field experience and presented the research results of a student's chosen area of investigation. Each student interpreted the examined community setting, extrapolating from its present state, suggesting how such institutions might change or adapt to different social, economic, and political futures possibilities. Thus, the fourth quarter provided parent, students, teachers, and community groups to share their interests and ideas on shaping the future of their community.

Project Director Geneve Selsor felt that the project "attempted to create in students, teachers, parents, and community an awareness of and critical appreciation for some fundamental concepts and methods that could be used to shape their preferential futures. These participants discovered that this was both very simple and very complicated. It is complicated because there are vast forces and knowledge beyond their control and comprehension. It is simple when they perceive that the future depends on community process, an awareness built on personal practice and habit which says start here and work with yourself and your environment."

Basic to Omaha's project is the belief in, and commitment to the idea that each individual has a responsibility to affect change in the future. If the student is prepared to deal with new and different situations, if s/he can cope with fluxuating demands, if s/he has knowledge of alternatives, then the educational community has succeeded in preparing its students for the future. The ultimate purpose of the study of the future is to help students create a better life for themselves by anticipating future possibilities--which includes both the wished-for and feared-for futures. In that way, the future can have a powerful impact on the decisions individuals make. With or without intervention, all of our lives will change in our lifetimes beyond the scope of contemporary imagination.

Familiarizing students with current trends and possible global, social, environmental, and economic situations they might encounter in their adult lives seems to be a logical function of the schools which is, however, grossly neglected by most school systems. The future perspective is incorporated into the curriculum of Westside

Community Schools because of the efforts of a small team of teachers, a supportive administration, a concerned community and the support of federal agencies for such innovative and responsible approaches to education. A fundamental shift in the time perspective of education is needed to catch up to, get ahead of, and obtain an adaptive personal perspective on the vast changes ahead. Schools need to be responsive to the rate of change in the culture so they can educate people to live and function creatively in this context.

It was possible to include the futures perspective into the curriculum of Westside Community Schools and that potential seems inherent in schools throughout the United States. If you are interested in obtaining further information on organizing such a curriculum or curricular change process and the Omaha experience, contact: Mrs. Geneve Selsor, c/o Arbor Heights Junior High, 8601 Arbor Heights Drive, Omaha, Nebraska, 68124

THE AMOEBA

Dennis Rader

(NOTE: What I have in mind in the following analogy is the evolution of global consciousness. I suggest that it be distributed to the class, and read out loud.)

The Amoeba is not blind, although it could be said that its perception is not exactly macroscopic. Which means that it sees reality on a small scale, but then, what do you expect. The poor little thing has no ears, eyes, or nary a whisker like the cat. Neither does it really have what one could call a nose. Yet despite this tremendous lack of perceptual equipment, the amoeba moves.

The amoeba forms what are called pseudopods, which means false feet. It scoots along, something like a globule of water trailing the little penisulas of moisture that chase gravity down a window pane. To be a living thing, the amoeba moves very strangely, to say the least. Cytoplasm, the bits of stuff that make up life, for unknown reasons, starts flowing into a particular part of the amoeba, pooching it out into that particular direction. The rest of the cytoplasm follows suit, and that is how the amoeba travels.

The question is how does the amoeba find the direction for a position change? The amoeba must have some system that serves as a receptor for the stimuli of its choice, and this guides its effectors, or pseudopods. Whatever it is; it isn't much. Regardless, the amoeba keeps bustling around even though the comprehensiveness of its perception is suspect.

The human species is something like an amoeba. It could easily be said that the human phenomenon is billions of little cytoplasmic bits, usually referred to as individuals, that are collectively part of the same scene. These individual cytoplasmic bits (like those in an amoeba) are almost always in a state of flux. Flowing here and there, they occasionally gather enough of themselves into one direction to become the human equivalent of a pseudopod. And that is the way the human species gets places.

The key word is places. What places? Where are we going? Pseudopods (often referred to as social movements) are the effectors of the human species. But what are the receptors? And for that matter, what are the stimuli? Now, this may come as a shock to most of you, but these things haven't been determined.

The morphology of the amoeba offers for inspection not one ear, eye, nose, or cat whisker. Heaven only knows where the amoeba will go as it is being dragged around by its pseudopods. But for that matter, how do we know where we are going?

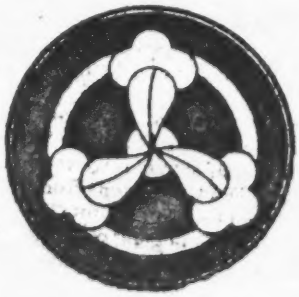
You may have noticed that ignorance doesn't seem to slow us down. Our pseudopods churn right along. The pace is swift, relatively speaking, even though our sense of direction is as blind as that of a deaf bat.

* * * * *

The analogy could be followed by questions such as:

1. What is the analogy trying to communicate?
2. What pseudopods are you personally part of? Your family? Your peers? Your school? Your nation?
3. Can these pseudopods be illustrated graphically?
4. What are your top priority pseudopods?
5. How did you determine them?
6. What happens when an amoeba has too many pseudopods? Too few?
7. What do you think of the guidelines?
8. What are some of the pseudopods afoot to save the human species?

This analogy is designed to generate exploration of social change, and the value systems that choose the directions that we go in.



PLANNING MEANINGFUL LIVES: A FUTURES STUDIES APPROACH TO COUNSELING

Jock McClellan

Many students in high school and college are groping for ways to lead meaningful lives. Their search is confused by the fact that during their lifetimes their world may change many times. Even counselors and teachers admit the difficulty of foreseeing changes in such areas as values, lifestyles, job opportunities and social organizations. Therefore, this article suggests that students, counselors, and teachers use the techniques of future studies to help make more realistic and meaningful life plans. In this article I will first discuss components of meaning and present an aid for visualizing those components. I will then suggest ways that futures studies exercises might increase the dimensions of a meaningful life. Last, I will suggest guidelines for a futures studies curriculum to help students plan meaningful lives.

The Dimensions of Meaning

Meaningfulness can be pictured as composed of three dimensions--context, intention and role. The "context dimension" answers the question "To whom is this life meaningful?" The "intention dimension" answers the question, "Why is this life meaningful?" What values, goals, purposes or intentions were satisfied? The "role dimension" answers the question, "For doing what is the life meaningful?" What function did the life serve for the "context"?

A Way to Picture Meaning

All three dimensions are required if meaning is to exist, and their relationship is what gives life's meanings their shape. This three part description allows us to picture meaning as a volume, as shown in figure 1. The volume and shape will vary with a) how broad or narrow is the context affected, b) how deep or shallow is the force of the intention, and c) how important the role played is the context and the player.

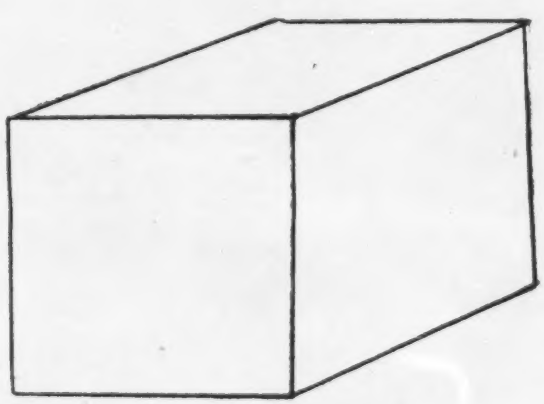


Figure 1.

This "meaning cube" can be used to analyze the meaningfulness of anything--statements, lives or life-plans. It, of course, does not pretend to reflect all the factors that can make a life feel "meaningful." It is simply a heuristic which allows us to think more graphically about the degrees of meaningfulness in our lives. For instance, Ghandi's life might be characterized as shown in figure 2, whereas the life of a solitary, detached misfit might be sculpted as in figure 3.

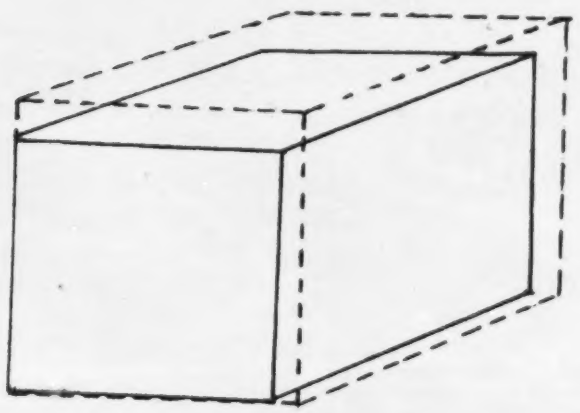


Figure 2.

Meaningfulness of Ghandi's Life:

a) Broad Context, affecting millions around globe for generations
b) Deeply Felt Intentions, unswervable will, care for others
c) Highly important role, matching personal and historical demands.

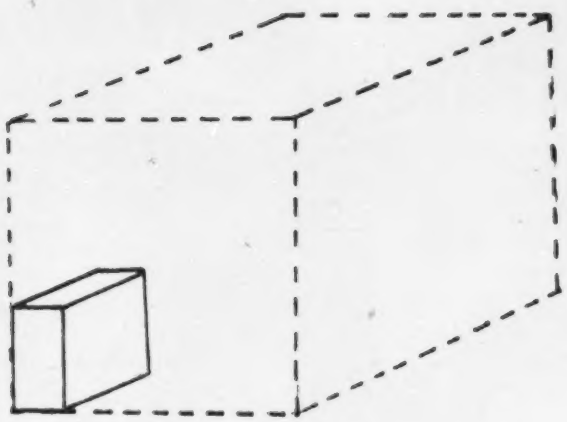


Figure 3.

Meaningfulness of "Lonely Jones'" Life:

a) Narrow Context, affecting few others
b) Shallow Intentionality, purposeless, didn't care, uncertain of values
c) Roles Played Unimportant to self and others.

If we divide each dimension into high, low and medium zones, we can categorize the meaningfulness of lives into twenty-seven different shapes. For example, a common configuration for adolescents is Low Context (primarily peer-oriented, with larger concerns lacking foresight or definition), High Intention (lots of zeal) and Low Role (few clear functions to fill). A counselor and student could use this categorization to think about the meaningfulness of the student's life.

How Futures Studies Can Increase Meaning

How then could a student of such a configuration be helped by futures studies? We have seen that meaning requires context and varies with the range of the context affected. The future is part of that context. Yet few students have a well elaborated image of the future--their own or the world's. It is the special role of futures studies to "make possible futures more real for others."[1] Doing this may expand the context within which the student may choose to try to have an affect. This expansion of horizons offers the student an opportunity to try to plan a more meaningful life.

Virtually all the techniques used by futures studies can serve to expand the dimension of meaning I've called context. Back issues of FII and Draper Kaufman's Teaching The Future (ETC Publications, 1976) are resources full of activities using such techniques as brainstorming, scenario-writing, spaghetti-wheels, simulations, trend analyses, Delphi's and cross-impact matrices. A student who reads futurists like Herman Kahn (The Next 200 Years), social analysts like Robert Heilbroner (An Inquiry into the Human Prospect) and utopians like Ernest Collenbach (Ecotopia) cannot but expand her vision of alternative future contexts. This can be futures studies' main contribution to the student's opportunity for more meaningful choices.

Another dimension of our meaning cube, the force of intentions, can also be expanded using futures studies techniques. Futuristic socio-dramas help students feel what it would be like to play a certain role in a possible future. "Futures windows" use the scheme shown in figure 4 to clarify the student's distinction between what she hopes and expects will happen. Activities in which students invent their own futures often uncover intentions which were previously unconscious. Here futures studies can borrow from the techniques of values clarification developed by Sidney Simon to identify which futures would be more meaningful to the student.

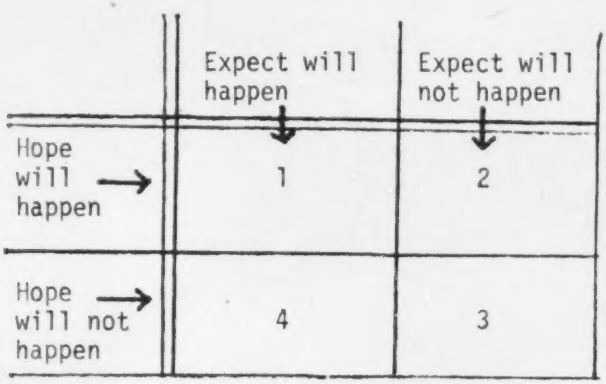


Figure 4.

To be meaningful, a student must not only be clear about what she values and what the future of her world might be, but she must also make a realistic fit between her intentions and her world. She must find a role for herself which is part of a realistic strategy on how to get from the present to her preferred future world order. Futuristic techniques which forecast what conditions are probable at given stages can help the student plot her course. Use of PERT charting can help the student schedule the interrelated events she must traverse on her way towards her goal.

It is for this third dimension of meaning that guidance counselors can offer skills that many futurists lack. Counselors, after all, have been trained to help students plan for their futures and are conversant with resources such as the Occupational Outlook which can help plot the futures of professions. However, as David R. Cook has pointed out in Guidance for Education in Revolution (Boston, 1971)[2], counselors must "shake themselves loose from the dead worlds in which they learn their trade" in order to understand the unarticulated problems of youth in a changing world. There are already many counselors who are realizing the value of futures studies for their purpose. Garry R. Waltz, editor of Impact, dedicated an entire issue (Vol. 3, No. 1, 1974) to futuristic counseling and proposed that futuristics be part of the formal training of counselors.[3] Sheldon Eisenberg gives a detailed description of a curriculum to explore the future, run by counselors and calling on their skills in the affective education so important in what I've called the intentional dimension of meaning.[4] Lewis B. Morgan has proposed ways counselors can respond to the rise of "future shock."[5]

Guidelines for Curricula

Therefore I urge counselors, teachers and futurists to join forces to invent curricula which can help students plan more meaningful lives. The basic goal of the curricula should be to expand the three dimensions of the student's "meaning cube" and to integrate them in a coherent and workable life plan. The general pattern of such curricula is likely to follow this sequence:

1) Use a meaning cube or similar device to assess the meaningfulness of the student's current life plan.

2) Future studies techniques reveal alternative possibilities on a local, global and cosmic scale, for the near-, mid- and far-future. These techniques should involve more than dry forecasts of technology. Since much of meaning depends on caring (that driving force behind intention), exercises should include issues like family, friends, sex, marriage styles and death. (A useful collection of such exercises, Constructing a Life Philosophy, by David Bender and Gary McCuen is available from Future Planning Games, Greenhaven Press, Box 831, Anoka, Minnesota 55303.)

3) The student makes her own rating of the desirability of the options revealed in (2), and constructs her most preferred world.

4) The student examines her own strengths, weaknesses, values, longings, loves, goals and desired life-style, with help from her counselor.

5) The student identifies the roles required for the world to get to her most preferred world, using brainstorming, scenario writing, spaghetti wheels and other techniques, and inventing new roles demanded by new technologies and social organizations.

6) The student, teacher and counselor match (5) with (4), choose a role that fits the student's intentions with the world's possibilities, and plan a strategy to fill it.

7) Use the same approach as in step 1 to assess the meaningfulness of the student's new life plan. Compare to results of step 1.

8) The student is encouraged to repeat (1) to (7) periodically, updating her decision.

For example, let's imagine a student who on going through a host of futures studies exercise becomes convinced the globe is likely to be fraught with conflicts endangering her well-being. She decides, after debate with her teacher, that the best soultion is a world federalist order. She acknowledges that she likes argument, is logical and verbal, is angered by injustices, longs to travel, and wants a comfortable and independent life-style. She realizes that world federalism will require, among other professions, many international lawyers, and decides international law would meet many of her needs. Here she might use trend extrapolation techniques, and the Delphi process to clarify what the future for international lawyers is. She decides law is for her, and with her counselor uses a PERT chart to plan a strategy for becoming an international lawyer. Finally, she periodically re-examines her decision. But whether she changes her decision or not, she probably will know more about herself, her world and their future together, and will thus be better prepared to live a meaningful life.

Notes

1. John McClellan and Peter Wagschal, Futures Information Interchange, Vol. III, No. 4, December, 1975, p. 1.

2. David K. Cook, Guidance for Education in Revolution, Boston, Allyn & Bacon, 1971.

3. Gary R. Wall, "A Bill of Futuristics: Life/Career Planning and Human Services," Impact, Vol. 3, No. 1, p. 28.

4. Sheldon Eisenberg, "Exploring the Future: a counseling/curriculum project," Personnel and Guidance Journal, Vol. 52, No. 8, April 1974, pp. 527-533.

5. Lewis B. Morgan, "Counseling for Future Shock," Personnel and Guidance Journal, Vol. 52, No. 5, January 1974, pp. 283-287.

Futures Survey

Cyndy Guy, a member of the Future Studies Program at the University of Massachusetts, is conducting a survey of pre-secondary future studies programs. She is extremely interested in hearing from or obtaining names of any teachers who have been involved in futures instruction on this level.

All individuals, including those who have contributed suggestions, will be sent a summary of the survey upon completion.

Please write the author, c/o the Future Studies Program, 166 Hills So., University of Massachusetts, Amherst, MA. 01003.

REVIEW: THE POPULATION REFERENCE BUREAU, INC.

The Population Reference Bureau, Inc., is a non-profit education organization established in 1929. The Bureau is a wonderful and inexpensive source of high-quality information on the facts and implications of national and world population trends.

A nominal $5.00/year special educator membership entitles educators to receive:

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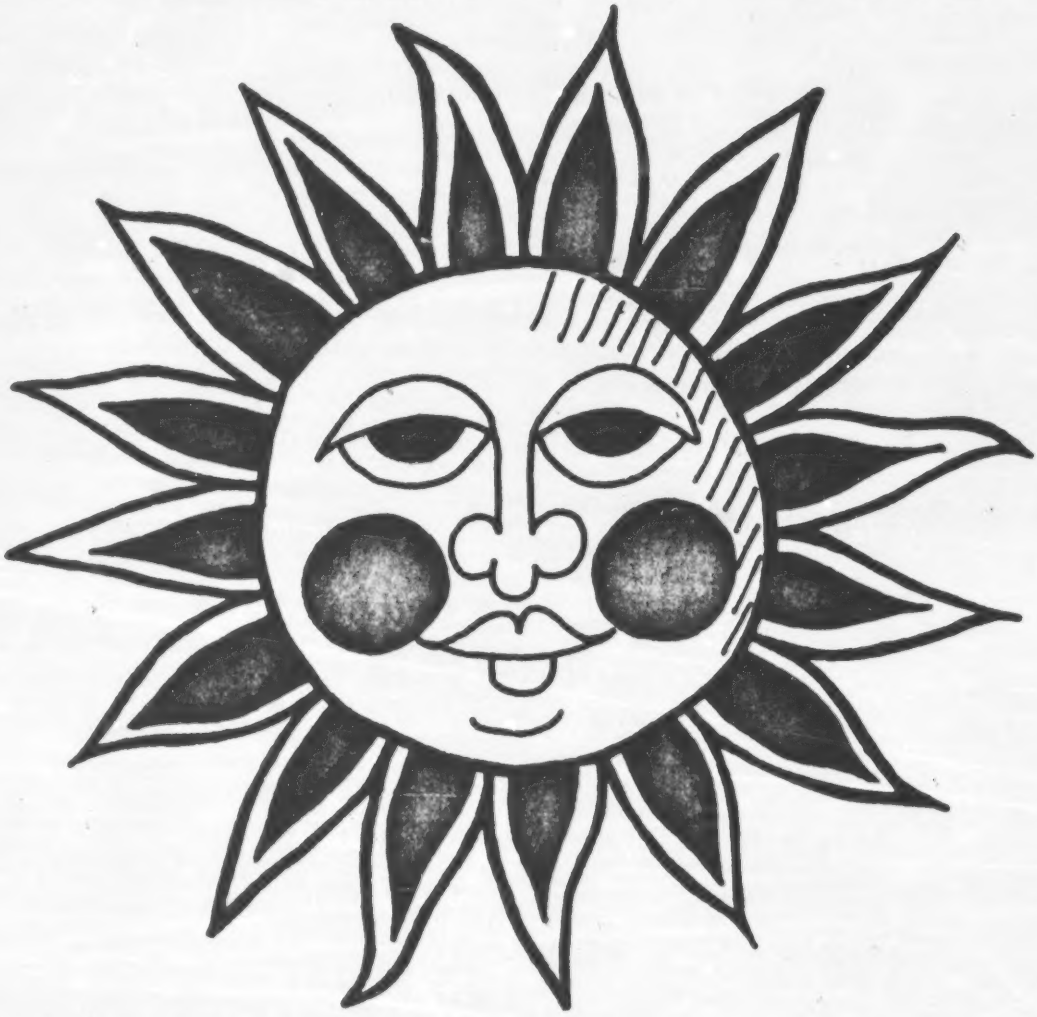
TOWARD TOMORROW FAIR



JUNE 24, 25, 26

The Toward Tomorrow Fair is a three-day event featuring speakers, exhibitors and presenters in futuristics, alternative energy, conservation, social action, medical technology, and human liberation. It is designed to inform individuals of the many options and future possibilities which will shape decisions and directions for the next century. Toward Tomorrow will present major addresses by distinguished public figures, over 300 exhibits and presentations, as well as panels, debates, workshops, and entertainment. Come to the Fair—it will be an experience to be remembered.

For further information contact Toward Tomorrow, 105 Hills House North, University of Massachusetts, Amherst, MA 01003.

TOWARD TOMORROW: SUMMER EDUCATION INSTITUTE

The Summer Education Institute runs concurrently with the second Toward Tomorrow Fair. Toward Tomorrow has won national recognition for its presentation of alternative future possibilities. Ralph Nader called last year's fair the "single best example of education for the citizenry about their choices for America's future that I've ever seen." Toward Tomorrow '77 will feature Barry Commoner, Buckminster Fuller and Ralph Nader along with scores of exhibits and presentations. The Summer Education Institute offers educators the opportunity to explore Future Studies and issues of Global Studies through two workshops organized around the dynamic Toward Tomorrow '77 Fair. The workshops are planned as a unit offering three graduate credits at the University of Massachusetts/Amherst, School of Education. Each workshop may also be elected separately.

TEACHING THE FUTURE WORKSHOP
JUNE 23-27

With the escalating social and technological crises of our day, the importance of anticipating problems before they reach crisis proportions is increasingly apparent. The only antidote for our future-shocked society is an orientation which assesses the implications of contemporary actions for both immediate and long-term futures. This orientation should seek—above all—to insure a world worth inheriting for those who follow. That orientation is known as futuristics or Future Studies.

The perspective of Future Studies offers a challenge and an opportunity to educators. How can we possibly incorporate a *futures awareness* into our schools, given the overwhelming dominance of the past and present? Yet how can we risk *not* exploring alternative futures with our students when the magnitude of the changes ahead is clearly evident? Future Studies suggests an exciting innovative approach to education which can be applied across disciplines and at every age and grade level.

What You'll Get

The Teaching the Future Workshop will provide an intensive overview of future-focused education with particular emphasis on:

1. ways to use the future studies curricula currently available;
2. how to implement future studies within existing curricula and how to develop a "futurized curriculum";
3. an investigation of futurist methodologies such as extrapolation techniques, normative forecasting, delphi polling;
4. an evaluation of long term trends in society and education, exploring possible alternatives for American education.

Structure

The Teaching the Future Workshop will be closely interwoven with Toward Tomorrow '77, which will serve as a focus for much of the workshop's activities. Presenters at the workshop include futurists Barry Commoner, Buckminster Fuller, Hazel Henderson, futurist educators Peter Wagschal and Dennis Livingston, and practicing elementary and secondary teachers who have employed Future Studies in their work for years. There will be lecture and brainstorm sessions, simulations, media reviews and discussions. Participants will be encouraged to share their experiences, as the workshop will be balanced with theoretical and practical presentations.

PERSPECTIVES ON GLOBAL DEVELOPMENT
JUNE 27-JULY 1

In the past few years it has become increasingly clear that certain fundamental issues of survival and development are best approached on a universal basis. What are these issues? Global Studies encompasses such issues as war, peace and world order; environmental deterioration and economic development; population growth; resources and their distribution; and cross-cultural communication and conflict resolution. While each of these has significant implications when considered in isolation, each is also interrelated and dependent upon the others.

There are those who believe that no matter what we do, we cannot survive. And there are those who believe that we can do anything and still survive. Regardless of where an individual may stand on that continuum, there is no question that the issues should be examined, discussed and acted upon. Education plays a central role in that process.

What You'll Get

The Perspectives on Global Development Workshop is designed to aid teachers, curriculum supervisors and others in the examination and design of curriculum materials and methods for Global Studies. The workshop will help you gain:

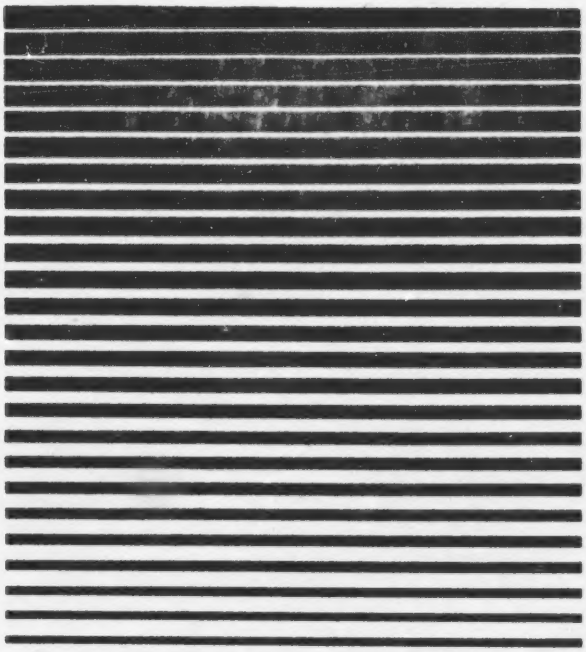
1. a familiarity with Global Studies as an integrative concept;
2. a concentration on a specific subject area within Global Studies (food, energy, nuclear arms, etc.);
3. experience in designing specific curriculum materials;
4. the ability to develop a critical analysis of a variety of ideas and materials relevant to the issues of Global Studies;
5. a familiarity with written and visual curriculum materials;
6. a familiarity with the techniques of integration.

Structure

Through a combination of lectures, small group discussions, working groups and field activities, participants in The Perspectives on Global Development Workshop will have the opportunity to explore the overall concepts of Global Studies as a concept and curriculum focus. There will be several general lectures as well as small group discussions based on the lectures and readings. Participants will then break into small working groups in which they will concentrate on one aspect of Global Studies: food and food supply, energy and energy needs, nuclear arms and disarmament. Speakers, films, books and other resources will be available to these working groups. Throughout, the emphasis will be on the practical as well as the theoretical.

The Future Studies Program Board of Advisors includes Robert Johansen, Glen Olds, Dennis Livingston, Christopher Dede, Theodore Gordon, Harold Shane, Alvin Toffler, Elise Boulding, Willis Harman, Anne Cheatham, Wilma Scott Heide and Buckminster Fuller.

TOWARD TOMORROW: SUMMER EDUCATION INSTITUTE



FEES & EXPENSES

The total cost for both workshops, including the Toward Tomorrow '77 Fair, room, board, books and materials, and graduate credits is $475.00. Either of the two workshops with the same benefits is $265.00. Housing costs of $52 for the entire Summer Education Institute ($26 for one workshop) may be deducted if housing accomodations are not needed.

REGISTRATION

I would like to attend the Summer Education Institute—June 23-July 1. I enclose a nonrefundable $50 deposit to secure my place and will pay the remainder of the fee on the first day of the Institute. After mailing my deposit, I will expect to receive background reading material. (Registrations received after May 10 will be assessed a late fee of $10.)

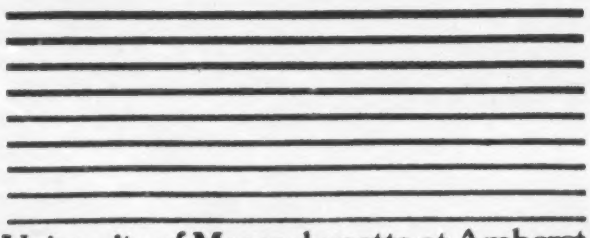
Name _____

Address _____ City _____ State _____ Zip _____

Please check the appropriate box if applicable.

☐ I am not interested in obtaining graduate credit through the Summer Education Institute.

☐ I am interested in enrolling in one workshop only, "Teaching the Future"/"Perspectives on Global Development." (Please CIRCLE the workshop you wish to attend.) I am enclosing a nonrefundable deposit of $25 to secure my place and will pay the remainder of the fee on the first day of the workshop.



University of Massachusetts at Amherst